S/M No.:TCN001MEF0

Service Manual

Color Television

CHASSIS : CN-001M

Model	
DTQ-14P2/P3FCM	U.S.A CANADA (AC120V)
DTQ-14P2/V1FCWM/P2SCM	
DTQ-14V1/V5FCM/V1/V4SCM	
DTQ-14V5FCNM/15U5SCM	
DTQ-14V6FCBM/FCPM/FBBM/FPPM	
DTQ-14J4FCGM/FCCM	
DTQ-20V1/V4/V5FCM	
DTQ-20V1/V4SCM	
DTQ-20P2/P3FCM/P2SCM	
DTQ-14V6NBM/NPM	Middle America (AC 110V)
DTQ-14V1/V3/V5FSM	
DTQ-14V1/V3/V4/V5/V8/V9SSM	
DTQ-14U1FSM/SSM/20U1FSM/SSM	
DTQ-20P2SSM/15U5FSM	
DTQ-20V1/V3/V4FSM	
DTQ-20V1/V3/V4/V8/V9SSM	
DTQ-14V1/V4/V5FSPM	Chile, Peru, Philippines (AC220V)
DTQ-14V1/V4/V5/U1SSPM	
DTQ-14V6NBPM/NPPM	
DTQ-20V1/V4FSPM	
DTQ-20V1/V3/V4/U1SSPM	
DTQ-15U5SSPM	
DTQ-14V1/V4SSFM	Dominica (AC60~180)
DTQ-20V1/V4SSFM	
DTQ-14V4/20V4FCFM	Korea, USA, Japen(AC90~250V)

✔ Caution

: In this Manual, some parts can be changed for improving, their performance without notice in the parts list. So, if you need the latest parts information,please refer to PPL(Parts Price List) in Service Information Center (http://svc.dwe.co.kr).

DAEWOO ELECTRONICS CO., LTD

http : //svc.dwe.co.kr

May. 2002

TABLE OF CONTENTS

SAFETY PRECAUTIONS 2
- PRODUCT SAFTY SERVICING GUIDELINES FOR AUDIO - VIDEO PRODUCS 2
- PRODUCT SAFTY SERVICING GUIDELINES FOR COLOR TELEVISION RECEIVERS 3

SPECIFICATIONS 5

BLOCK DIAGRAM 6

ALIGNMENT INSTRUCTIONS 7
- SERVICE MODE ADJUSTMENTS 7
- ASSEMBLY ADJUSTMENTS 8
- PARENTAL CONTROL PASSWORD SETTINGS 12

VOLTAGE CHART 13

WAVEFORMS 16

SCHEMATIC DIAGRAM 19

EXPLODED VIEW 20

ELECTRICAL PARTS LIST 28

APPENDIX (Appendix is provide only by internet [http://svc.dwe.co.kr])

IC DESCRIPTION 1

TROUBLE SHOOTING CHARTS 8
- NO POWER 8
- NO PICTURE 9
- NO SOUND 10
- CH DON'T MEMORY or CH SKIP 11
- NO COLOR 12
- NO VERTICAL DEFLECTION 12
- NO ON-SCREEN DISPLY 13
- REMOTE CONTROL DOES NOT OPERATE 13

PRODUCT SAFETY SERVICING GUIDELINES FOR AUDIO - VIDEO PRODUCTS

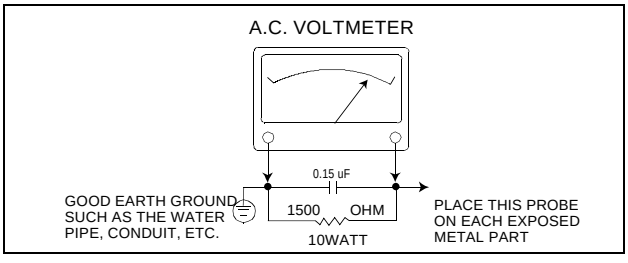
CAUTION : DO NOT ATTEMPT TO MODIFY THIS PRODUCT IN ANY WAY. NEVER PERFORM CUSTOMIZED INSTALLATIONS WITHOUT MANUFACTURER'S APPROVAL. UNAUTHORIZED MODIFICATIONS WILL NOT ONLY VOID THE WARRANTY, BUT MAY LEAD TO YOUR BEING LIABLE FOR ANT RESULTING PROPERTY DAMAGE OR USER INJURY.
SERVICE WORK SHOULD BE PERFORMED ONLY AFTER YOU ARE THOROUGHLY FAMILIAR WITH ALL OF THE FOLLOWING SAFETY CHECKS AND SERVICING GUIDELINES. TO DO OTHERWISE, INCREASES THE RISK OF POTENTIAL HAZARDS AND INJURY TO THE USER.
WHILE SERVICING, USE AN ISOLATION TRANSFORMER FOR PROTECTION FROM A.C. LINE SHOCK.

SAFETY CHECKS

AFTER THE ORIGINAL SERVICE PROBLEM HAS BEEN CORRECTED, A CHECK SHOULD BE MADE OF THE FOLLOWING:

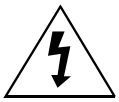
SUBJECT:FIRE & SHOCK HAZARD

1. BE SURE THAT ALL COMPONENTS ARE POSITIONED IN SUCH A WAY AS TO AVOID POSSIBILITY OF ADJACENT COMPONENT SHORTS. THIS IS ESPECIALLY IMPORTANT ON THOSE MODULES WHICH ARE TRANSPORTED TO AND FROM THE REPAIR SHOP.
2. NEVER RELEASE A REPAIR UNLESS ALL PROTECTIVE DEVICES SUCH AS INSULATORS, BARRIERS, COVERS, SHIELDS, STRAIN RELIEFS, POWER SUPPLY CORDS, AND OTHER HARDWARE HAVE BEEN REINSTALLED PER ORIGINAL DESIGN. BE SURE, THAT THE SAFETY PURPOSE OF THE POLARIZED LINE PLUG HAS NOT BEEN DEFEATED.
3. SOLDERING MUST BE INSPECTED TO DISCOVER POSSIBLE COLD SOLDER JOINTS, SOLDER SPLASHES OF SHARP SOLDER POINTS. BE CERTAIN TO REMOVE ALL LOOSE FOREIGN PARTICLES.
4. CHECK FOR PHYSICAL EVIDENCE OF DAMAGE OR DETERIORATION TO PARTS AND COMPONENTS, FOR FRAYED LEADS, DAMAGED INSULATION (INCLUDING A.C. CORD), AND REPLACE IF NECESSARY. FOLLOW ORIGINAL LAYOUT, LEAD LENGTH AND DRESS.
5. NO LEAD OR COMPONENT SHOULD TOUCH A RECEIVING TUBE OR A RESISTOR RATED AT 1 WATT OR MORE. LEAD TENSION AROUND PROTRUDING METAL SURFACES MUST BE AVOIDED.
6. ALL CRITICAL COMPONENTS SUCH AS FUSES, FLAMEPROOF RESISTOR, CAPACITORS, ETC. MUST BE REPLACED WITH EXACT FACTORY TYPES. DO NOT USE REPLACEMENT COMPONENTS OTHER THAN THOSE SPECIFIED OR MAKE UNRECOMMENDED CIRCUIT MODIFICATIONS.
7. AFTER RE-ASSEMBLY OF THE STE ALWAYS PERFORM AN A.C. LEAKAGE TEST ON ALL EXPOSED METALLIC PARTS OF THE CABINET. (THE CHANNEL SELECTOR KNOB, ANTENNA TERMINALS, HANDLE AND SCREWS) TO BE SURE THE SET IS SAFE TO OPERATE WITHOUT DANGER OF ELECTRICAL SHOCK. DO NOT USE A LINE ISOLATION TRANSFORMER DURING THIS TEST USE AN A.C. VOLTMETER, HAVING 5000 OHMS PER VOLT OR MORE SENSITIVITY, IN THE FOLLOWING MANNER : CONNECT A 1500 OHM 10 WATT RESISTOR, PARALLELED BY A .15 MFD. 150V A.C. TYPE CAPACITOR BETWEEN A KNOWN GOOD EARTH GROUND (WATER POPE, CONDUIT, ETC.) AND THE EXPOSED METALLIC PARTS, ONE AT A TIME. MEASURE THE A.C. VOLTAGE ACROSS THE COMBINATION OF 1500 OHM RESISTOR AND .15 MFD CAPACITOR. REVERSE THE A.C. PLUG AND REPEAT A.C. VOLTAGE MEASUREMENTS FOR EACH EXPOSED METALLIC PART. VOLTAGE MEASURED MUST NOT EXCEED .75 VOLTS R.M.S THIS CORRESPONDS TO 0.5 MILLIAMP A.C. NAY VALUE EXCEEDING THIS LIMIT CONSTITUTES A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED IMMEDIATELY.


A.C. VOLTMETER
0.15 uF
GOOD EARTH GROUND SUCH AS THE WATER PIPE, CONDUIT, ETC.
1500 OHM
10WATT
PLACE THIS PROBE ON EACH EXPOSED METAL PART

SUBJECT : GRAPHIC SYMBOLS

THE LIGHTNING FLASH WITH ARROWHEAD SYMBOL, WITHIN AN EQUILATERAL TRIANGLE, IS INTENDED TO ALERT THE SERVICE PERSONNEL TO THE PRESENCE OF UNINSULATED "DANGEROUS VOLTAGE" THAT MAY BE OF SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK.



THE EXCLAMATION POINT WITHIN AN EQUILATERAL TRIANGLE IS INTENDED TO ALERT THE SERVICE PERSONNEL TO THE PRESENCE OF IMPORTANT SAFETY INFORMATION ON SERVICE LITERATURE.

SUBJECT : X-RADIATION

1. BE SURE PROCEDURES AND INSTRUCTIONS TO ALL SERVICE PERSONNEL COVER THE SUBJECT OF X-RADIATION. THE ONLY POTENTIAL SOURCE OF X-RAYS IN CURRENT T.V. RECEIVERS IS THE PICTURE TUBE. HOWEVER, THIS TUBE DOES NOT EMIT X-RAYS WHEN THE HIGH VOLTAGE IS AT THE FACTORY SPECIFIED LEVEL. THE PROPER VALUE IS GIVEN IN THE APPLICABLE SCHEMATIC. OPERATION AT HIGHER VOLTAGES MAY CAUSE A FAILURE OF THE PICTURE TUBE OR HIGH VOLTAGE SUPPLY AND UNDER CERTAIN CIRCUMSTANCES, AMY PRODUCE RADIATION IN EXCESS OF DESIRABLE LEVELS.
2. ONLY FACTORY SPECIFIED C.R.T ANODE CONNECTORS MUST BE USED. DEGAUSSING SHIELDS ALSO SERVE AS X-RAY SHIELD IN COLOR SETS. ALWAYS RE-INSTALL THEM.
3. IT IS ESSENTIAL THAT SERVICE PERSONNEL HAVE AVAILABLE AN ACCURATE AND RELIABLE HIGH VOLTAGE METER. THE CALIBRATION OF THE METER SHOULD BE CHECKED PERIODICALLY AGAINST A REFERENCE STANDARD. SUCH AS THE ONE AVAILABLE AT YOUR DISTRIBUTOR.
4. WHEN THE HIGH VOLTAGE CIRCUITRY IS OPERATING PROPERLY THERE IS NO POSSIBILITY OF AN X-RADIATION PROBLEM. EVERY TIME A COLOR CHASSIS IS SERVICED, THE BRIGHTNESS SHOULD BE RUN UP AND DOWN WHILE MONITORING THE HIGH VOLTAGE WITH A METER TO BE CERTAIN THAT THE HIGH VOLTAGE DOES NOT EXCEED THE SPECIFIED VALUE AND THAT IT IS REGULATING CORRECTLY. WE SUGGEST THAT YOU AND YOUR SERVICE ORGANIZATION REVIEW TEST PROCEDURES SO THAT VOLTAGE REGULATION IS ALWAYS CHECKED AS A STANDARD SERVICING PROCEDURE, AND THAT THE HIGH VOLTAGE READING BE RECORDED ON EACH CUSTOMER'S INVOICE.
5. WHEN TROUBLESHOOTING AND MAKING TEST MEASUREMENTS IN A PRODUCT WITH A PROBLEM OF EXCESSIVE HIGH VOLTAGE, AVOID BEING UNNECESSARILY CLOSE TO THE PICTURE TUBE AND THE HIGH VOLTAGE SUPPLY. DO NOT OPERATE THE PRODUCT LONGER THAN IS NECESSARY TO LOCATE THE CAUSE OF EXCESSIVE VOLTAGE.
6. REFER TO HV, B+ AND SHUTDOWN ADJUSTMENT PROCEDURES DESCRIBED IN THE APPROPRIATE SCHEMATIC AND DIAGRAMS (WHERE USED).

SUBJECT : IMPLOSION

1. ALL DIRECT VIEWED PICTURE TUBES ARE EQUIPPED WITH AN INTEGRA IMPLOSION PROTECTION SYSTEM. BUT CARE SHOULD BE TAKEN TO AVOID DAMAGE DURING INSTALLATION. AVOID SCRATCHING THE TUBE. OF SCRATCHED REPLACE IT.
2. USE ONLY RECOMMENDED FACTORY REPLACEMENT TUBES.

SUBJECT : TIPS ON PROPER INSTALLATION

1. NEVER INSTALL ANY PRODUCT IN A CLOSED-IN RECESS, CUBBYHOLE OR CLOSELY FITTING SHELF SPACE, OVER OR CLOSE TO HEAT DUCT, OR IN THE PATH OF HEATED AIR FLOW.
2. AVOID CONDITIONS OF HIGH HUMIDITY SUCH AS: OUTDOOR PATIO INSTALLATIONS WHERE DEW IS A FACTOR, NEAR STEAM RADIATORS WHERE STEAM LEAKAGE IS A FACTOR, ETC.
3. AVOID PLACEMENT WHERE DRAPERIES MAY OBSTRUCT REAR VENTING. THE CUSTOMER SHOULD ALSO AVOID THE USE OF DECORATIVE SCARVES OR OTHER COVERINGS WHICH MIGHT OBSTRUCT VENTILATION.
4. WALL AND SHELF MOUNTED INSTALLATIONS USING A COMMERCIAL MOUNTING KIT, MUST FOLLOW THE FACTORY APPROVED MOUNTING INSTRUCTIONS. A PRODUCT MOUNTED TO A SHELF OR PLATFORM MUST RETAIN ITS ORIGINAL FEET (OR THE EQUIVALENT THICKNESS IN SPACERS)TO PROVIDE ADEQUATE AIR FLOW ACROSS THE BOTTOM, BOLTS OR SCREWS USED FOR FASTENERS MUST NOT TOUCH ANY PARTS OR WIRING. PERFORM LEAKAGE TEST ON CUSTOMIZED INSTALLATIONS.
5. CAUTION CUSTOMERS AGAINST THE MOUNTING OF A PRODUCT ON SLOPING SHELF OR A TILTED POSITION, UNLESS THE PRODUCT IS PROPERLY SECURED.
6. A PRODUCT ON A ROLL-ABOUT CART SHOULD BE STABLE ON ITS MOUNTING TO THE CART. CAUTION THE CUSTOMER ON THE HAZARDS OF TRYING TO ROLL A CART WITH SMALL CASTERS ACROSS THRESHOLDS OR DEEP PILE CARPETS.
7. CAUTION CUSTOMERS AGAINST THE USE OF A CART OR STAND WHICH HAS NOT BEEN LISTED BY UNDERWRITERS LABORATORIES. INC. FOR USE WITH THEIR SPECIFIC MODEL OF TELEVISION RECEIVER OR GENERICALLY APPROVED FOR USE WITH T.V.S OF THE SAME OR LARGER SCREEN SIZE.
8. CAUTION CUSTOMERS AGAINST THE USE OF EXTENSION CORDS, EXPLAIN THAT A FOREST OF EXTENSIONS SPROUTING FROM A SINGLE OUTLET CAN LEAD TO DISASTROUS CONSEQUENCES TO HOME AND FAMILY.

PRODUCT SAFETY SERVICING GUIDELINES FOR COLOR TELEVISION RECEIVERS

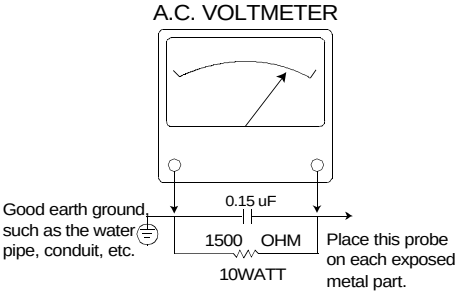
CAUTION : Do not attempt to modify this product in any way. Unauthorized modifications will not only void the warranty, but may lead to your being liable for any resulting property damage or user injury.
Service work should be performed only after you are thoroughly familiar with all of the following safety checks and servicing guidelines. To do otherwise, increases the risk of potential hazards and injury to the user.

SAFETY CHECKS

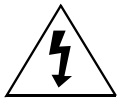
After the original service problem has been corrected, a check should be made of the following:

SUBJECT : FIRE & SHOCK HAZARD

1. Be sure that all components are positioned in such a way as to avoid possibility of adjacent component shorts. This is especially important on those chassis which are transported to and from the repair shop.
2. Never release a repair unless all protective devices such as insulators, barriers, covers, shields, strain reliefs, and other hardware have been reinstalled per original design.
3. Soldering must be inspected to discover possible cold solder joints, frayed leads, damaged insulation (including A.C. cord), solder splashes or sharp solder points. Be certain to remove all loose foreign particals.
4. Check for physical evidence of damage or deterioration to parts and components, and replace if necessary follow original layout, lead length and dress.
5. No leads or components should touch a receiving tube or a resistor rated at 1 watt or more. Lead tension around protruding metal surfaces must be avoided.
6. All critical components such as fuses, flameproof resistors, capacitors, etc. must be replaced with exact factory types. Do not use replacement components other than those specified or make unrecommended circuit modifications.
7. After re-assembly of the set always perform an A.C. leakage test on all exposed metallic parts of the cabinet, (the channel selector knob, antenna terminals, handle and screws) to be sure the set is safe to operate without danger of electrical shock. Do not use a line isolation transformer during this test. Use an A.C. voltmeter, having 5000 ohms per volt or more sensitivity, in the following manner : connect a 1500 ohm 10 watt resistor, paralleled by a 15 mfd. 150V A.C. type capacitor between a known good earth ground (9water pipe, conduit, etc.) and the exposed metallic parts, one at a time. Measure the A.C. voltage across the combination of 1500 ohm resistor and 0.15 MFD capacitor. Reverse the A.C. plug and repeat A.C. voltage measurements for each exposed metallic part. Voltage measured must not exceed 0.75 volts R.M.S. This corresponds to 0.5 milliamp A.C. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.

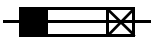

A.C. VOLTMETER
0.15 uF
Good earth ground, such as the water pipe, conduit, etc.
1500 OHM
10WATT
Place this probe on each exposed metal part.

GRAPHIC SYMBOLS :



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the service personnel to the presence of uninsulated "dangerous voltage" that may be of sufficienty magnitude to constitute a risk of electric shock.

The exclamation point within an equilateral triangle is intended to alert the service personnel to the presence of important safety information in service literature.



Fuse symbol is printed on pcb adjacent to the fuse, with "RISK OF FIRE REPLACE FUSE AS MARKED". The symbol is explained in the service manual with the following wording or equivalent.

"CAUTION : FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE (4A, 125V)" and "**ATTENTION**: AFIN D'ASSU UNE PROTECTION PERMANENTE CONTRE LES RISQUES D INCENDIE, REMPLACER UNIQUEMENT PAR UN FUSIBLE DE MEME TYPE ET DE "4A, 125V".

SUBJECT : X-RADIATION

1. Be sure procedures and instructions to all service personnel cover the subject of X-rays in current T.V. receivers is the picture tube. However, this tube does not emit X-rays when the high voltage is at the factory specified level. The proper value is given in the applicable schematic. Operation at higher voltages may cause a failure of the picture tube or high voltage supply and, under certain circumstances, may produce radiation in excess of desirable levels.
2. Only factory specified C.R.T. anode connectors must be used. Degaussing shields also serve as X-ray shield in color sets. Always re-install them.
3. It is essential that the serviceman has available an accurate and reliable high voltage meter. The calibration of the meter should be checked perio - dically against a reference standard. Such as the one available at your distributor.
4. When the high voltage circuitry is operating properly there is no possibility of an X-radiation problem. Every time a color chassis is serviced, the brightness should be run up and down while monitoring the high voltage with a meter to be certain that the high voltage does not exceed the specified value and that it is regulating correctly. We suggest that you and your service organization review test procedures so that voltage regulation is always checked as a standard servicing procedure. And that the high voltage reading be recorded on each customer's invoice.
5. When troubleshooting and making test measurements in a receiver with a problem of excessive high voltage, avoid being unnecessarily close to the picture tub eand the high voltage compartment.
   Do not operate the chassis longer than is necessary to locate the cause of excessive voltage.
6. Refer to HV, B+and Shutdown adjustment procedures described in the appropriate schematic and diagrams(where used).

SUBJECT : IMPLOSION

1. All direct viewed picture tubes are equipped with an integral implosion protection system, but care should be taken to avoid damage during installation. Avoid scratching the tube. If scratched, replace it.
2. Use only recommended factory replacement tubes.

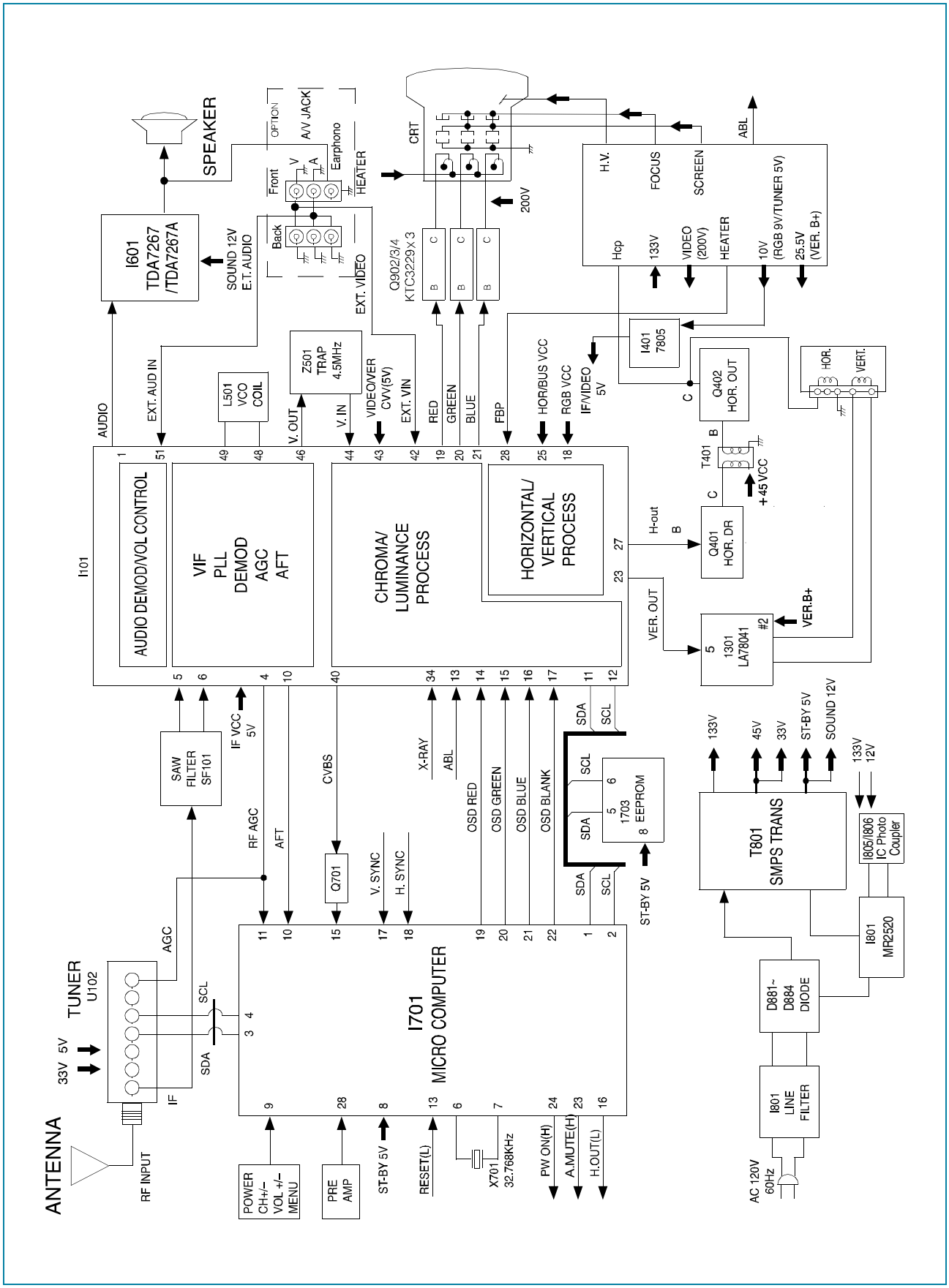
SUBJECT : TIPS ON PROPER INSTALLATION

1. Never install any receiver in closed-in recess, cubbyhole or closely fitting shelf space over, or close to heat duct, or in the path of heated air flow.
2. Avoid conditions of high humidity such as : Outdoor patio installations where dew is a factor. Near steam radiators where steam leakage is a factor, etc.
3. Avoid placement where draperies may obstruct rear venting. The customer should also avoid the use of decorative scarves or other coverings which might obstruct ventilation.
4. Wall and shelf mounted installations using a commercial mounting kit, must follow the factory approved mounting instructions. A receiver mounted to a shelf or platform must retain its original feet(or the equivalent thickness in spacers) to provide adequate are flow across the bottom, bolts or screws used for fasteners must not touch and parts or wiring. Perform leakage test on customized installations.
5. Caution customers against the mounting of a receiver on sloping shelf or a tilted position, unless the receiver is properly secured.
6. A receiver on a roll-about cart should be stable on its mounting to the cart. Caution the customer on the hazards of trying to roll a cart with small casters across thresholds or deep pile carpets.
7. Caution customers against the use of a cart or stand which has not been listed by underwriters laboratories, inc. For use with their specific model of television receiver or generically approved for use with T.V.'s of the same or larger screen size.

SPECIFICATIONS

ITEMS \ MODEL	DTQ-14P2/P3FCM DTQ-14P2/V1FCWM/P2SCM DTQ-14V1/V5FCM/V1/V4SCM DTQ-14V5FCNM/15U5SCM DTQ-14V6FCBM/FCPM/FBBM/FPPM DTQ-14J4FCGM/FCCM DTQ-20V1/V4/V5FCM DTQ-20V1/V4SCM DTQ-20P2/P3FCM/P2SCM DTQ-14V6NBM/NPM DTQ-14V1/V3/V5FSM DTQ-14V1/V3/V4/V5/V8/V9SSM DTQ-14U1FSM/SSM/20U1FSM/SSM DTQ-20P2SSM/15U5FSM DTQ-20V1/V3/V4FSM DTQ-20V1/V3/V4/V8/V9SSM	DTQ-14V1/V4/V5FSPM DTQ-14V1/V4/V5/U1SSPM DTQ-14V6NBPM/NPPM	DTQ-20V1/V4FSPM DTQ-20V1/V3/V4/U1SSPM DTQ-15U5SSPM	DTQ-14V1/V4SSFM DTQ-20V1/V4SSFM DTQ-14V4/20V4FCFM	REMARKS
TV STANDARD	NTSC-M				
POWER INPUT	AC 120V 60 Hz	AC 220V 50/60 Hz		AC60-180V(SSFM Series) AC90-250V(FCFM Series)	
POWER CONSUMPTION	14 = 55W 20 = 68W				
TUNING SYSTEM	Frequency Synthesizer (FS) Tuning System				
TUNING RANGES	VHF : 2 ~ 13 (12) UHF : 14 ~ 69 (56) CATV : 1 ~ 125 (125)				
SOUND OUTPUT	1.3 W (14/20U1 Series/20V8 Series 1.3W + 1.3W)				
SPEAKER	3 W 8 ohm				
ANTENNA INPUT IMPEDANCE	75 ohm Unbalanced				
AUXILIARY INPUT TERMINAL	Front : Video, Audio Rear : Video, Audio "P" Series Without Video, Audio				
INTERMEDIATE FREQUENCIES	Picture IF Carrier Frequency : 45.75 MHz Sound IF Carrier Frequency : 41.25 MHz Color Sub-Carrier Frequency : 3.579545 MHz				
REMOTE CONTROL	R-43A08				
SPECIAL FUNCTIONS	3-Language OSD With CAPTION Wake-up On/Off Time Sleep Timer Power Restore				

BLOCK DIAGRAM



ALIGNMENT INSTRUCTIONS

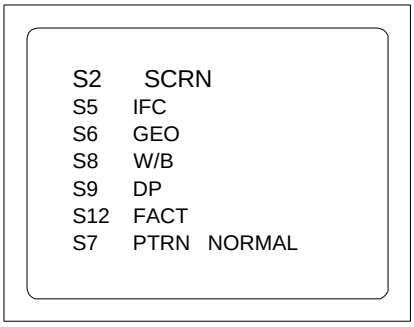
1. SERVICE MODE ADJUSTMENTS

Follow the steps below whenever service adjustment is required. See Table- A and Table- B to determine if service adjustments are required.

1) How to enter the service mode using the user remote control.

- Turn the set on.
- Direct the remote control to the reception window of TV.
- Push buttons of remote control in sequence as follows.

  1 ® MUTE ® DISPLAY ® MUTE
- Then, the screen will appear as follows.



- Using the channel up or channel down button, select the item you wish to adjust.
  (The color of selected item turns into the red.)
- Press the volume up or down button to enter in the service mode you wish to adjust.

2) How to memorize the adjusted values in the service mode.

- Must press **DISPLAY** button the state which the screen is displaying each of service menus after all adjustments are completed each of all service menu.

Table-A : Adjust the values of service mode when a part is replaced.

PART REPLACED	ADJUSTMENT		NOTES
	NECESSARY	UNNECESSARY	
I701 (U-COM)		O	Data is stored in I703.
I101 (MAIN)		O	
I703 (EEPROM)	O		Initial setting values are written from I701. Adjusting Items S5 RFAGCD S6 H.PHASE/V.POSI/V.SIZE S8 RD/BD/RB/GB/BB S9 Subbrightness
CRT	O		Adjust items related to picture tube only.(White Balance adjustment)

Table-B

MODE	ADJUSTMENT ITEMS	DATA		REMARKS
		INITIAL	RANGE	
S2	Screen Adjustment	-	-	
S5	Auto RF AGC	-	-	
	Video Level (VIDEOL)	7	0 ~ 7	Must be set to 7
	RF AGC Delay (RFAGCD)	*	0 ~ 63	Align RF AGC threshold
	FM Level (FM.LEV)	8	0 ~ 31	Must be set to 30
	AGC Point	3.75	-	Select AGC reference voltage
	A/D VALUE	-	-	
S6	Horizontal Phase(H.PHASE)	*	0 ~ 31	Align sync to flyback pulse, using internal cross pattern(S7)
	Vertical Position (V.POSI)	*	0 ~ 63	Align vertical DC bias, using internal cross pattern(S7)
	Vertical Size (V.SIZE)	*	0 ~ 127	Align vertical amplitude, using internal cross pattern(S7)
	NO SD POWER OFF	YES	-	Automatically turn off in 15min for no received signal.
	Vertical S-Correction (V SC)	0	0 ~ 31	Must be set to 7
	Vertical Linearity (V LIN)	18	0 ~ 31	Must be set to 18
S7	Internal Black	-	-	Display internal BLACK pattern
	Internal 100% White	-	-	Display internal 100% WHITE
	Internal 60% White	-	-	Display internal 60% WHITE
	Internal Cross Pattern	-	-	Display internal CROSS pattern
S8	Red Drive (RD)	*	0 ~ 127	Align RED OUT AC level
	Green Drive (GD)	10	0 ~ 15	Must be set to 10
	Blue Drive (BD)	*	0 ~ 127	Align BLUE OUT AC level
	Red Bias (RB)	*	0 ~ 255	Align RED OUT DC level
	Green Bias (GB)	*	0 ~ 255	Align GREEN OUT DC level
	Blue Bias (BB)	*	0 ~ 255	Align BLUE OUT DC level
S9	Subbrightness	*	0 ~ 127	Align common RGB DC level
	Contrast	10	0 ~ 27	Must be set to 20
	Tint	27	0 ~ 77	Must be set to 32
	Color	15	0 ~ 47	Must be set to 32
	Sharp	30	0 ~ 30	Must be set to 20
S11	RGDEF	1	0,1	
	BGSLC	3	0~3	
	HBR	1	0~7	
	HBL	6	0~7	
	GYAng	1	0,1	
	CkOPE	1	0~7	
	WPL	0	0,1	
	PREADJ	0	0~3	
	Dcrest	3	0~3	
	BLKSTR	3	0~3	
	BLKGAN	3	0~3	
	Hout On	3	0~31	
	Hout of	3	0~31	
S12	Forwarding Mode	-		Factory Initialization

* indicates the items with different settings each of sets

2. ASSEMBLY ADJUSTMENTS

1) SCREEN ADJUSTMENT (S2)

- Enter the service mode and select service adjustment S2.
- You cna see the one horizontal line on the screen.
- Adjust the Screen Control Volume (located on FBT) so that the horizontal line onscreen may be disappeared.
- Press the volume up or down button to exit in the screen adjustment mode.

NOTE

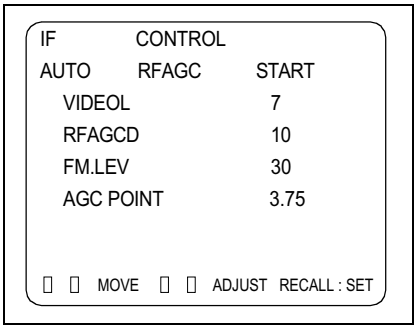
IN THE SCREEN ADJUSTMENT MODE, DONT PRESS OTHER BUTTONS EXCEPT VOLUME UP OR DOWN BUTTON.

2) FOCUS ADJUSTMENT

- Turn in a local station and adjust the Focus Control knob (located on FBT) for best picture details at high light condition.

3) RF AGC DELAY ADJUSTMENT (S5)

- Receive a good local channel.
- Enter the service mode and select service adjustment S5.
- You can see the OSD as shown in below.

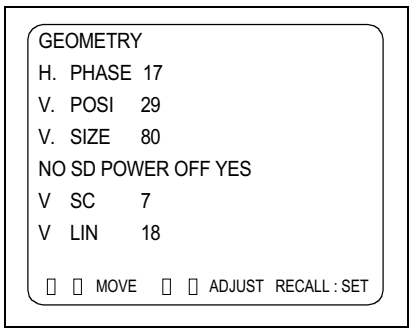


- Select RFAGCD item, press the volume up or down button until noise or beat in picture disappears.
- Press the DISPLAY button to memorize the data.

4) GEOMETRIC ADJUSTMENTS (S6)

- Enter the service mode and select service adjustment S7.
- Whenever you select the “S7” using the volume up or down button, the screen is changing like this.

- Using the volume up or down button, select internal cross pattern.
- Select service adjustment S6
- You can see the OSD as shown in below.



4-1. Horizontal Position Adjustment

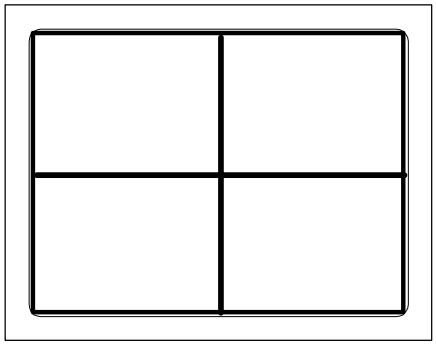
- Select H.PHASE item, adjust H.PHASE data value to obtain proper horizontal centering of the internal cross pattern at the left and right of the screen.

4-2. Vertical Position Adjustment

- Select V.POSI item, adjust V.POSI data value to center the raster properly on thescreen.

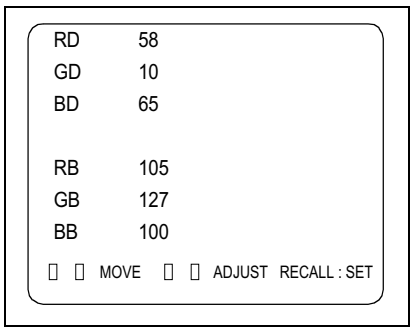
4-3. Vertical Size Adjustment

- Select “V.SIZE” item, adjust “V.SIZE” data value to proper vertical size as follows.



5) WHITE BALANCE ADJUSTMENT(S8)

- Receive a good local channel.
- Enter the service mode and select service adjustment S8.
- You can see the OSD as shown in below.

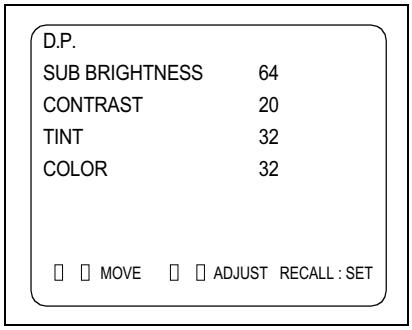


- Using volume up or volume down, adjust service adjustment data of RD/GD/BD and RB/GB/BB until a good gray scale with normal whites is obtained.ALIGNMENT INSTRUCTIONS
- Press the DISPLAY button to memorize the data.

6) DIGITAL PRESET(D.P) ADJUSTMENTS(S9)

SUBBRIGHTNESS ADJUSTMENT

- Receive a good local channel.
- Enter the service mode and select service adjustment S9.
- You can see the OSD as shoown in below.



- Select Subbrightness item, adjust Subbrightness data value to obtain normal brightness level.
- Press the DISPLAY button to memorize the data.

CONTRAST

- Fixed value = 20

TINT

- Fixed value = 32

COLOR

- Fixed value = 32

7) FACTORY OUTGOING MODE (S12 : FACT)

- If you select the S12, then the set becomes factory outgoing status.
- You can see the OSD “outgoing OK”

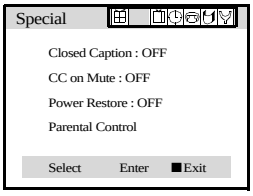
3. PARENTAL CONTROL PASSWORD SETTINGS

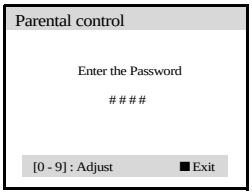
If user forget Parental Control Password as follows.

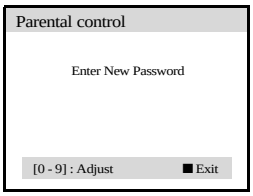
1) CHANGE THE PASSWORD.

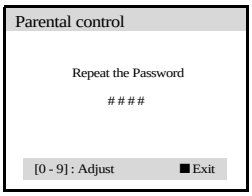
- Turn the set on.
- Direct the remote control to the reception window of your TV/VCR
- Using the MENU buttons, select the Special menu.
- Using the the channel up (ã) or down (å) duttons, select prental control.
- Using the volume up (¢), set the password Menu.
- Push buttons of remote control in sequence as follows.

  2 → 2 → 1 → 1
- Parental control password is reset.
- Using the 0~9 buttons, enter the password.
- Using the 0~9 buttons, repeat the password.





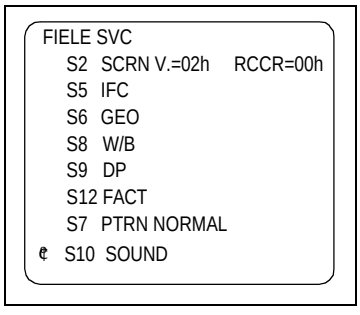




2) RESET THE PASSWORD

- Turn the set on.
- Direct the remote control to the reception window of your TV/VCR.
- Push buttons of remote control in sequence as follows.

  1 → MUTE → DISPLAY → MUTE
- Then, the screen will appear as follows.



- Using the channel up (ã) or down (å) buttons, select S12 FACT.

  Press the volume up (¢) button, the set becomes factory outgoing status.
- Parental control password is reset.
- Using the MENU buttons, select the parental control menu, set the new password.

VOLTAGE CHART

LOC	PIN	MODE	
		ON	OFF
I501	1	2.17	0
	2	1.95	0
	3	2.7	0
	4	2.39	0.49
	5	2.86	0
	6	2.86	0
	7	0	0
	8	4.87	0.57
	9	1.76	0
	10	2.46	0.28
	11	4.9	4.93
	12	4.86	4.92
	13	3.59	0
	14	1.38	0
	15	1.39	0
	16	1.39	0
	17	0	0
	18	8.11	0.235
	19	2.61	0.232
	20	2.57	0
	21	2.71	0
	22	NC	NC
	23	2.27	0
	24	2.59	0
	25	5.12	4.23
	26	2.62	2.2
	27	0.94	0.16
	28	0.86	1.37
	29	1.69	1.4
	30	4.96	0.706
	31	0	0
	32	2.73	0.31
	33	0	0
	34	0	0
	35	2.37	0
	36	3.38	0
	37	1.72	0
	38	2.77	0.35
	39	5.09	0
	40	2.12	0
	41	0	0
	42	2.45	0
	43	4.84	0.5

LOC	PIN	MODE	
		ON	OFF
	44	2.63	0
	45	2.39	0
	46	2.16	0
	47	3.62	0
	48	4.23	0.51
	49	4.23	0.51
	50	2.3	0
	51	2.19	0.65
	52	1.99	0.32
	53	2.39	0
	54	3.08	0.3

LOC	PIN	MODE	
		ON	OFF
I301	1	2.21	0
	2	25.7	0
	3	2.27	3.63
	4	0	0
	5	13.65	0
	6	26.2	0.43
	7	2.21	0

LOC	PIN	MODE	
		ON	OFF
I401	1	7.66	0
	2	0	0
	3	4.95	0.6

LOC	PIN	MODE	
		ON	OFF
I601	1	12.09	7.19
	2	6.2	0
	3	6.5	0
	4	0.824	0
	5	0	0
	6	0	0
	7	0	0
	8	0	0
	9	0	0
	10	0	0
	11	0	0
	12	0	0
	13	0	0
	14	0	0
	15	0	0
	16	0	0

VOLTAGE CHART

LOC	PIN	MODE	
		ON	OFF
I701	1	4.86	4.96
	2	4.81	4.94
	3	5.03	4.97
	4	5.03	4.97
	5	0	0
	6	1.9	1.87
	7	2.71	2.67
	8	4.99	4.91
	9	5.04	4.95
	10	0	0
	11	2.28	0
	12	0	4.88
	13	4.93	4.87
	14	3.71	3.64
	15	2.66	2.44
	16	0	4.88
	17	4.96	0.71
	18	4.07	4.95
	19	0	0
	20	0	0
	21	0	0
	22	0	0
	23	4.84	4.56
	24	0	0
	25	0	0
	26	0	0
	27	0	0.22
	28	5.03	4.93
	29	4.8	4.7
	30	5.05	4.95
	31	0	4.88
	32	5.05	4.95
	33	0	0
	34	0	0
	35	0	0
	36	0	0

LOC	PIN	MODE	
		ON	OFF
I703	1	0	0
	2	0	0
	3	0	0
	4	0	0
	5	4.91	4.94
	6	4.86	4.92
	7	0	0
	8	5.01	4.95

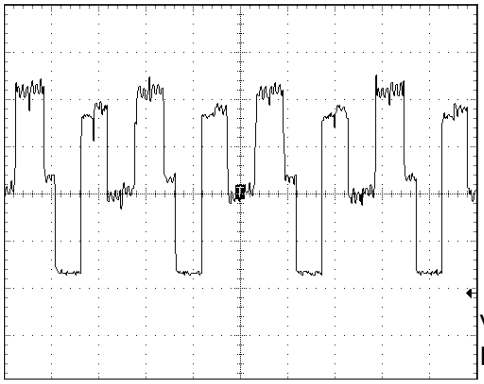
LOC	PIN	MODE	
		ON	OFF
I801	1	2.47	0
	2	2.33	1.33
	3	0	0
	4	18.28	9.19
	5	137.2	145
	6	0.067	0
	7	137.2	145

VOLTAGE CHART

LOC	PIN	MODE		LOC	PIN	MODE	
		ON	OFF			ON	OFF
Q201	C	5.03	4.95	Q703	C	5.04	4.17
	E	3.29	3.26		E	0.44	0
	B	2.51	2.47		B	1.06	0
Q401	C	-3.63	35.55	Q704	C	5	4.92
	E	0	0		E	4.97	4.89
	B	0.35	0		B	4.35	4.28
Q402	C	130.2	102.3	Q707	C	5.05	4.98
	E	0	0		E	0.18	4.19
	B	0	0		B	0.06	4.89
Q404	C	10.23	0	Q804	C	0	0
	E	0	0		E	132.6	102.2
	B	0	0		B	132.2	102.2
Q501	C	0	0	Q805	C	12.12	7.19
	E	3.59	0		E	5.03	4.96
	B	4.53	0		B	5.63	5.59
Q575	C	-0.1	0	Q806	C	5.13	0
	E	10	0		E	5.05	4.98
	B	10.22	0		B	4.46	5.45
Q653	C	6.52	0	Q871	C	12.09	0.03
	E	0	0		E	0	0
	B	0	0.71		B	0.04	0.7
Q701	C	4.07	4.96	Q873	C	0.04	5.45
	E	0	0		E	0	0
	B	0	0		B	0.68	0

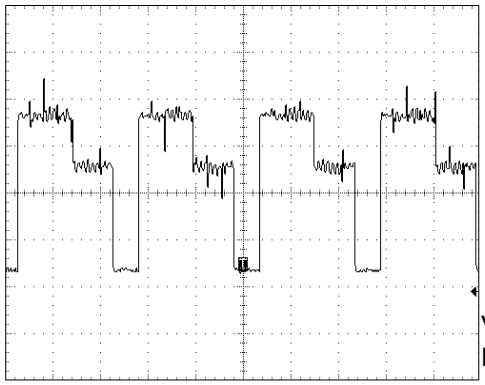
WAVEFORMS

(1) I101 PIN 19



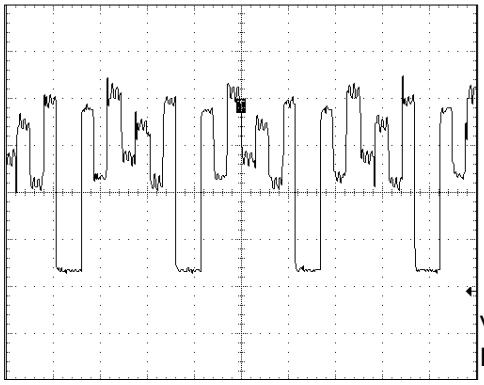
V:1V/div
H:25us/div

(2) I101 PIN 20



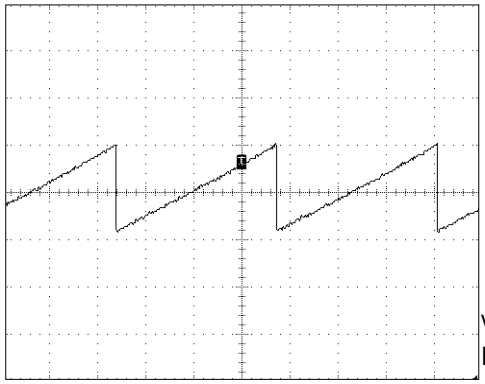
V:1V/div
H:25us/div

(3) I101 PIN 21



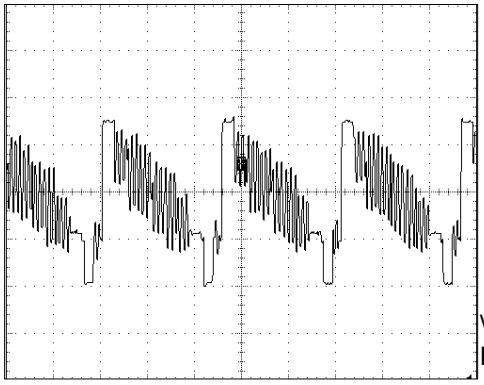
V:1V/div
H:25us/div

(4) I101 PIN 23



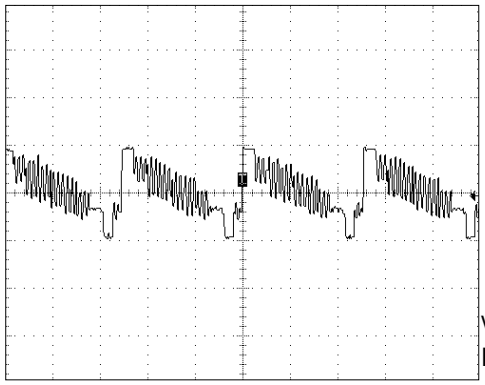
V:500mV/div
H:5ms/div

(5) I101 PIN 40



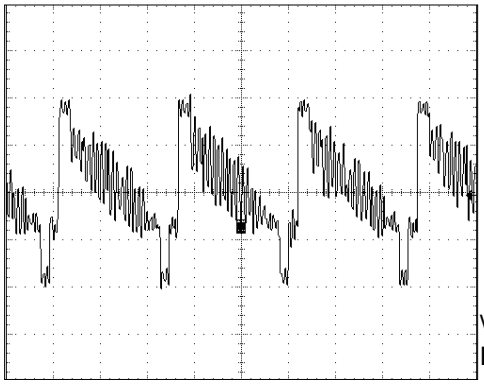
V:500mV/div
H:25us/div

(6) I101 PIN 44



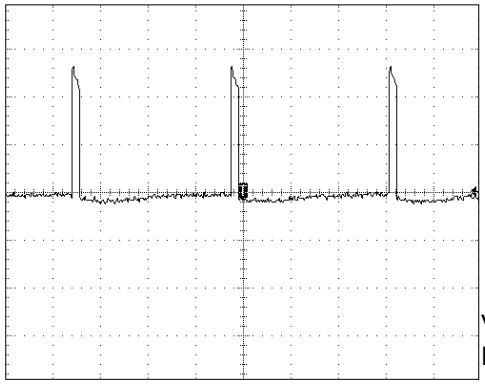
V:500mV/div
H:25us/div

(7) I101 PIN 46



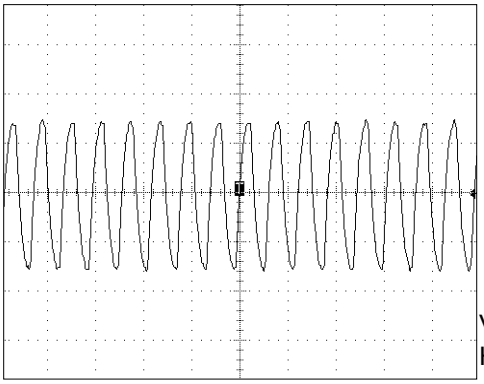
V:500mV/div
H:25us/div

(8) I101 PIN 6



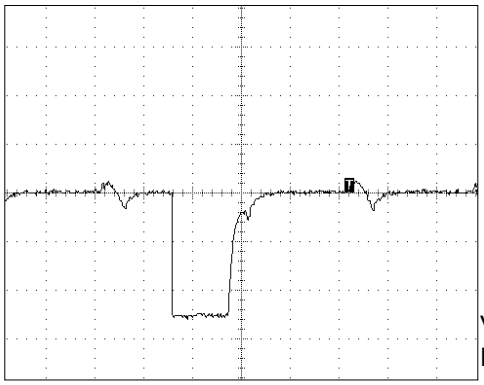
V:10V/div
H:5ms/div

(9) I701 PIN 7



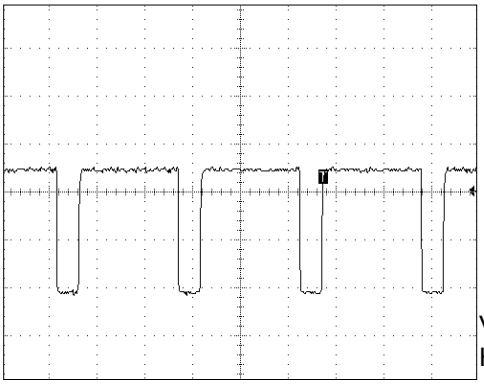
V:1V/div
H:50us/div

(10) I101 PIN 17



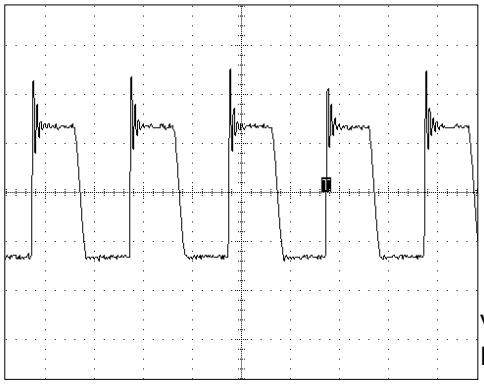
V:2V/div
H:25us/div

(11) I701 PIN 18



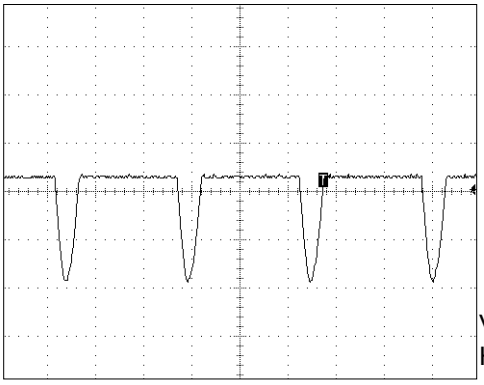
V:20V/div
H:25us/div

(12) I801 PIN 7



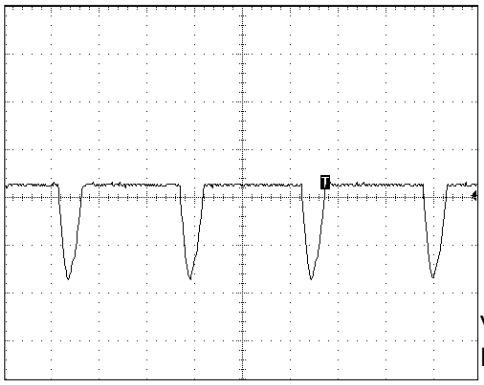
V:100V/div
H:10us/div

(13) T402 PIN 25.5V



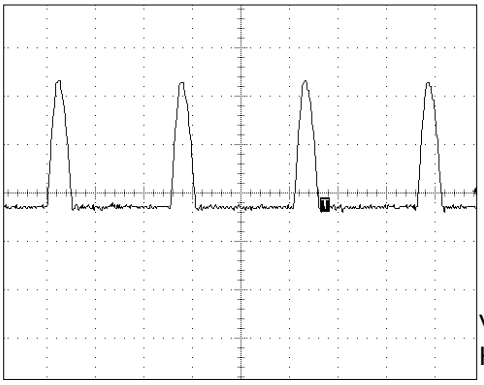
V:100V/div
H:25us/div

(14) T402 PIN 10.5V



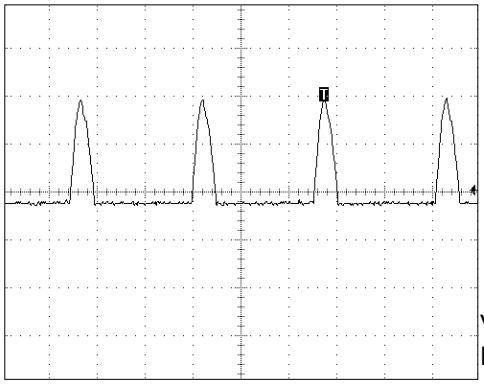
V:50V/div
H:25us/div

(15) T402 PIN HEATER



V:10V/div
H:25us/div

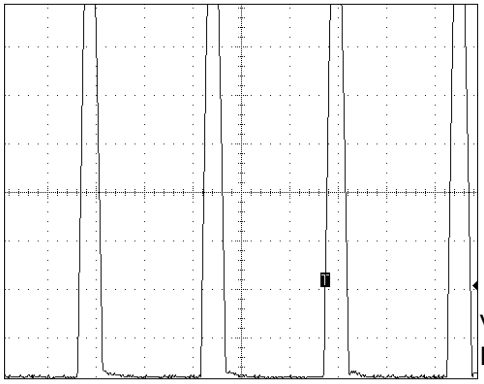
(16) T402 PIN 200V



V:100V/div
H:25us/div

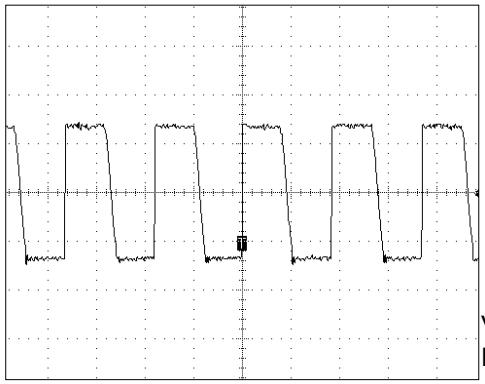
WAVEFORMS

(17) T401 PIN H.V



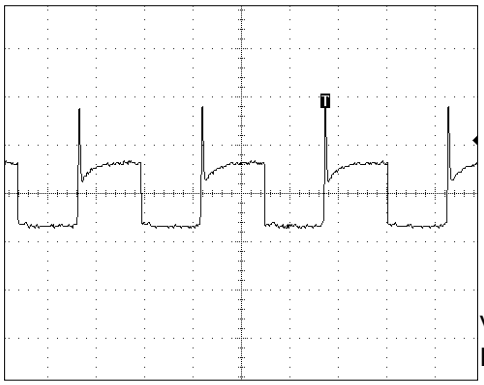
V:100V/div
H:25us/div

(18) T801 PIN 133V



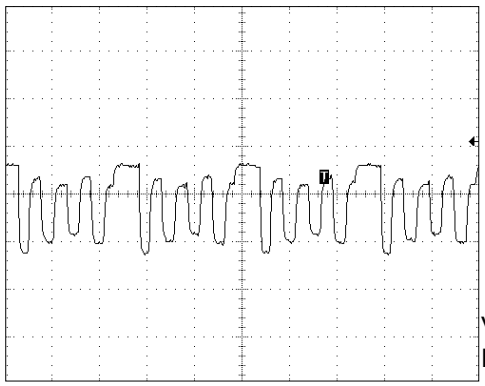
V:100V/div
H:10us/div

(19) Q401 COLLECTOR



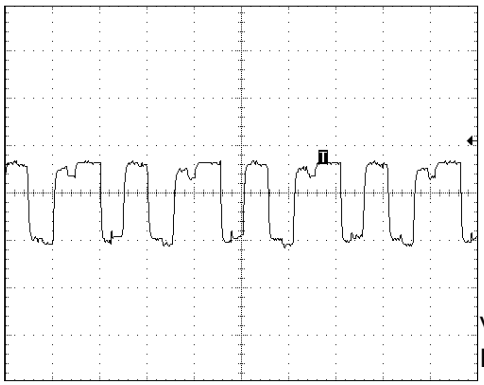
V:5V/div
H:25us/div

(20) CRT SOCKET PIN B



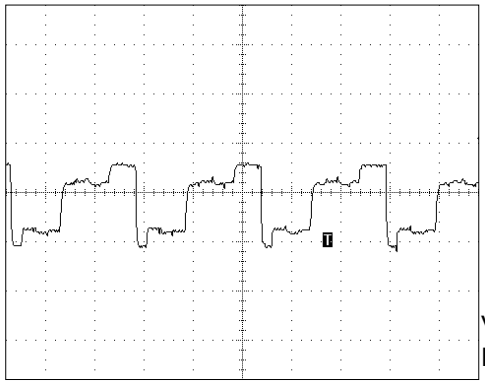
V:50V/div
H:25us/div

(21) CRT SOCKET PIN R



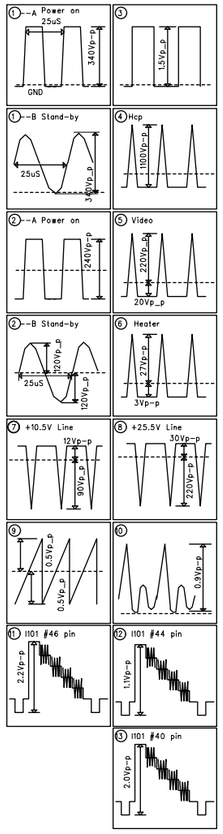
V:50V/div
H:25us/div

(22) CRT SOCKET PIN G



V:50V/div
H:25us/div

SCHEMATIC DIAGRAM



1. CAUTION

⚠ SYMBOL MARKED PARTS IN THE SCHEMATIC DIAGRAM DESIGNATE THE COMPONENTS WHICH HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY AND SHOULD BE REPLACED ONLY WITH TYPES INDENTICAL TO THOSE IN ORIGINAL CIRCUIT OR SPECIFIED IN THE PARTS LIST. DO NOT DEGRADE THE SAFETY OF THE RECEIVER THROUGH IMPROPER SERVICING.

WARING :

BEFORE SERVICING THIS CHASSIS,READ THE "X-RAY RADIATION PRECAUTION " "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" IN THE SERVICE MANUAL.

CAUTION TO THE SERVICE TECHNICIANS :

BEFORE RETURNING THE RECEIVER TO THE CUSTOMER APPROPRIATE LEAKAGE CURRENT OR RESISTANCE MEASUREMENT SHOULD BE CONDUCTED TO DETERMINE THAT EXPOSED PARTS ARE PROPERLY INSULATED FROM THE SUPPLY CIRCUIT.

NOTE :

1. RESISTANCE IS SHOWN IN OHMS. K=1,000 M=1,000,000

2. UNLESS OTHERWISE NOTED IN SCHEMATIC ALL CAPACITOR VALUES LESS THAN 1 ARE EXPRESSED IN uF AND THE VALUES MORE THAN 1 IN pF.

3. VOLTAGES READ WITH "V.T.V.M" FROM POINT INDICATE TO CHASSIS GROUND USING A COLOR BAR SIGNAL WITH ALL CONTROLS AT NORMAL LINE VOLTAGE 120 VOLTS AC.
VOLTAGE READINGS SHOWN ARE NORMAL VALUES AND MAY VARY +20% EXCEPT H.V.

4. IN CASE OF 19" RECEIVER THE COMPONENT WITH THE MARK ★ SHOULD BE USED ONLY.

5. THE CIRCUIT DIAGRAM IS A STANDARD ONE. CIRCUITS PRINTED MAY BE SUBJECT TO CHANGE FOR PRODUCT IMPROVEMENT WITHOUT PRIOR NOTICE.

CN-001M SCHEMATIC DIAGRAM
CN-001K (Korea)

2002.05.16.

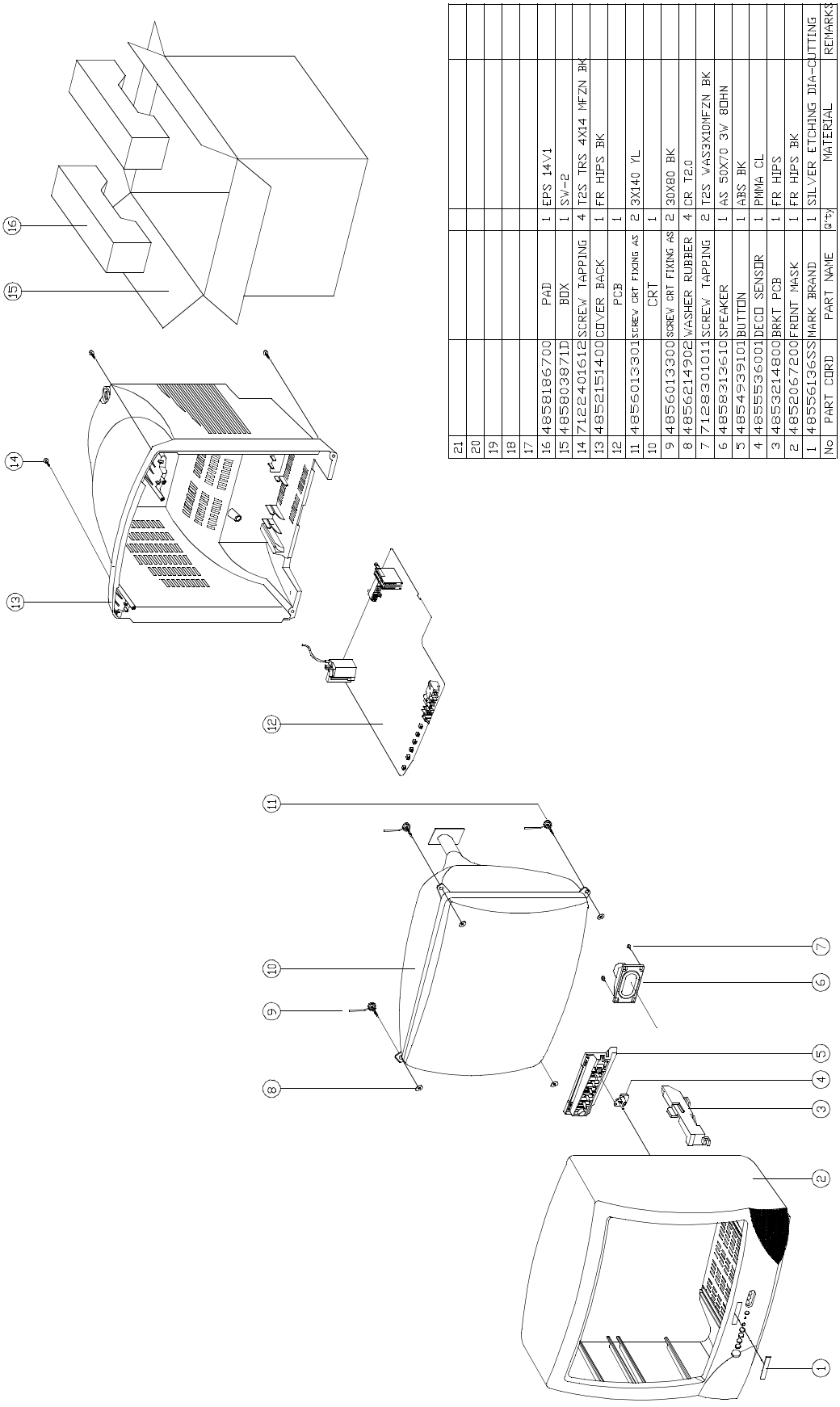
I:	KOREA	(NTSC)
II:	JAPAN	(NTSC)
III:	TAIWAN	(NTSC)
IV:	PHILIPPINES	(NTSC)
V:	USA / CANADA / MEXICO	(NTSC) → NORTH AMERICA
VI:	BRAZIL / ARENTINA	(PAL-M/N) → SOUTH AMERICA
VII:	CHILE / PERU / PANAMA / VENEZUELA / COLOMBIA	(NTSC) → MIDDLE AMERICA

LOC	AC120V	AC220V
F801	125V 4A	250V 4A
B01	MP3320	MP3920
C810	1000V 222	1KV 472
C811	1000V 222	1KV 472
R801	2.2 Ω	7Ω 3W
C804	250V 330UF	400V 180U
PWC1	110V CORD	220V CORD
T801	TSM-3541T8	TSM-3541T4

DRAWN	DESIGNED	CHECKED	APPROVED
CHASSIS	FILE NAME	ISSUED	REVISED
CN-001M			
DAEWOO ELECTRONICS TV RESEARCH CENTER			

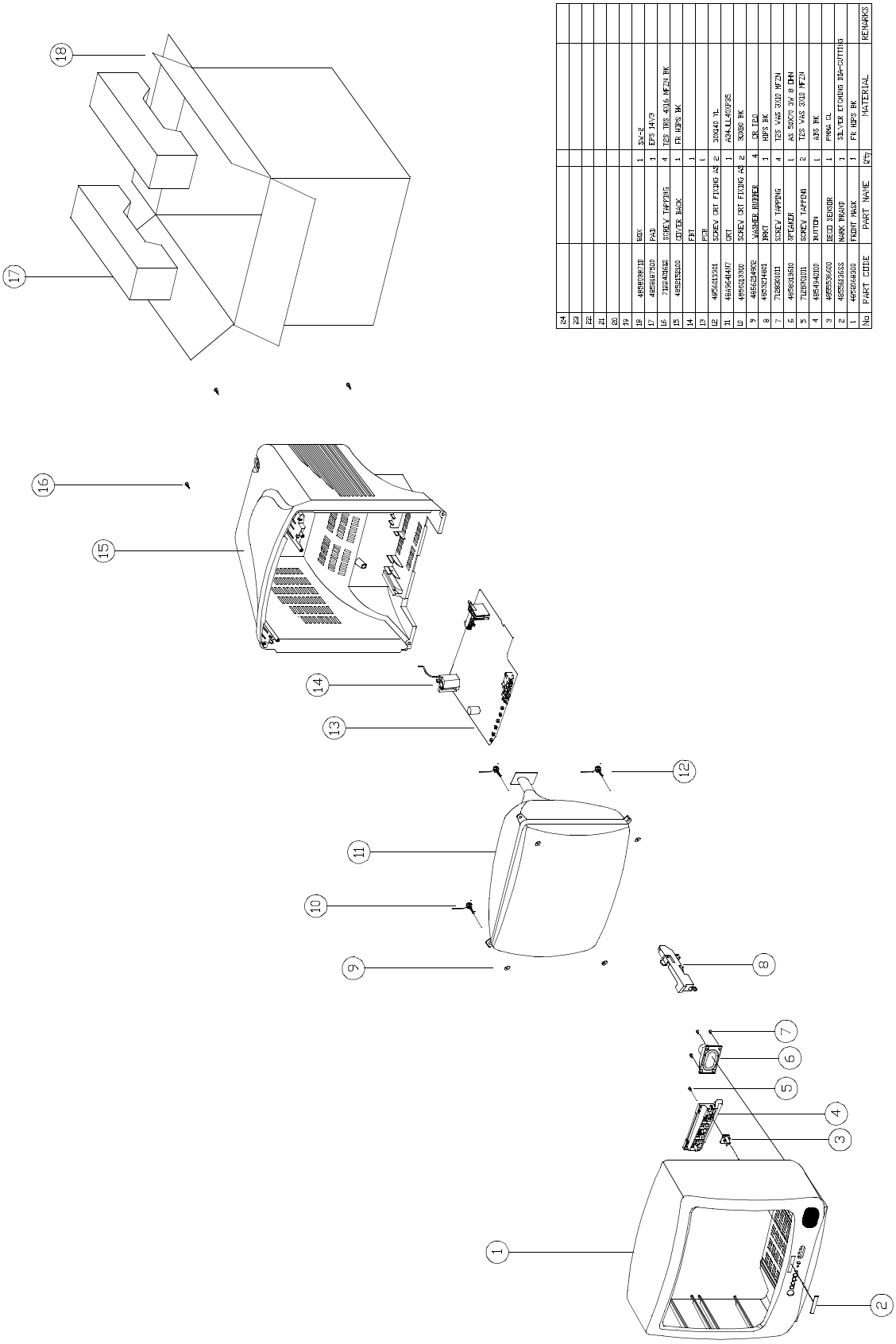
EXPLODED VIEW

1. DTQ-14V1FSM



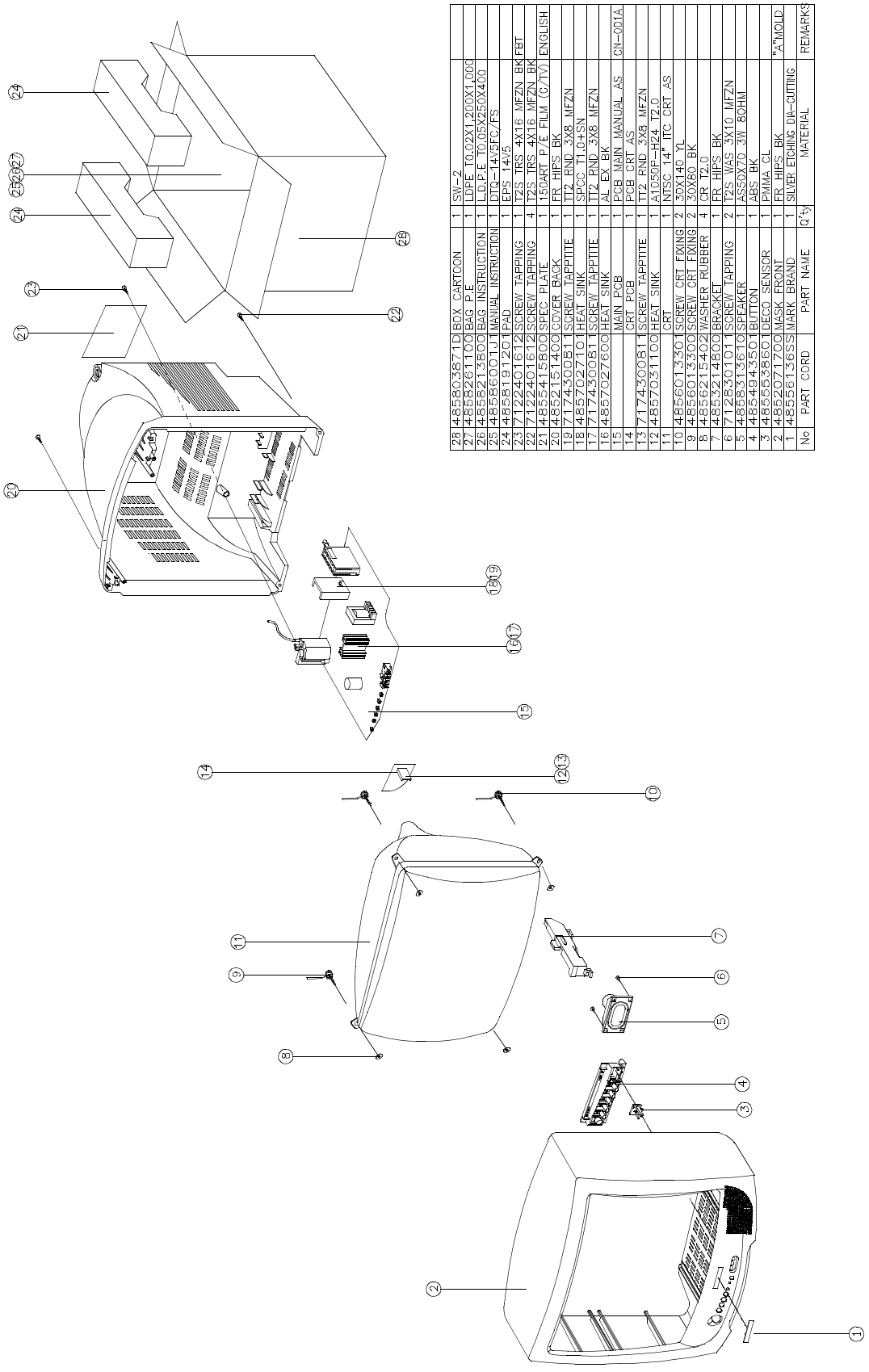
No	PART CORD	PART NAME	Q'ty	MATERIAL	REMARKS
21					
20					
19					
18					
17					
16	48581867000	PAD	1	EPS 14V1	
15	48580387100	BOX	1	SW-2	
14	71224016120	SCREW TAPPING	4	T2S TRS 4X14 MFZN BK	
13	48521514000	COVER BACK	1	FR HIPS BK	
12		PCB	1		
11	48560133010	SCREW CRT FIXING AS	2	3X140 YL	
10		CRT	1		
9	48560133000	SCREW CRT FIXING AS	2	30X80 BK	
8	48562149020	WASHER RUBBER	4	CR T2.0	
7	71283010110	SCREW TAPPING	2	T2S WAS3X10MFZN BK	
6	48583136100	SPEAKER	1	AS 50X70 3W 8OHM	
5	48549391010	BUTTON	1	ABS BK	
4	48555360010	DECO SENSOR	1	PMMA CL	
3	48532148000	BRKT PCB	1	FR HIPS	
2	48520672000	FRONT MASK	1	FR HIPS BK	
1	48556136550	MARK BRAND	1	SILVER ETCHING DIA-CUTTING	

2. DTQ-14V3FSM



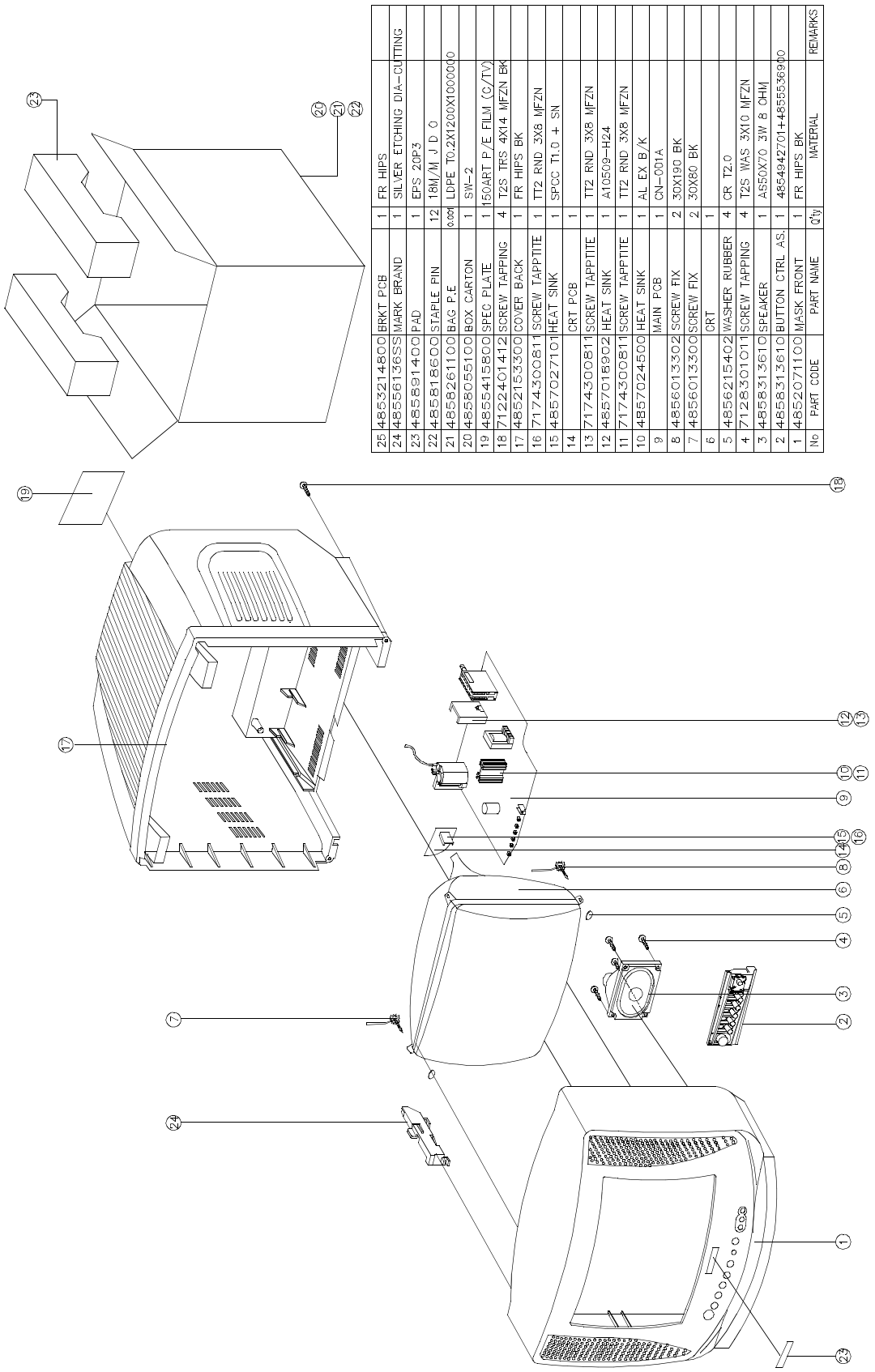
No.	PART CODE	PART NAME	Q'ty	MATERIAL	REMARKS
24					
23					
22					
21					
20					
19					
18	4895039871B	BOX	1	SW-2	
17	4895487300	PAD	1	EPS 14*9	
16	7828430582	SCREW TAPPING	4	TES TRS 4X16 MFZN BK	
15	4895475100	COVER BACK	1	PR HIPS BK	
14		PBT	1		
13		PCB	1		
12	4895403301	SCREW CRT FIXING	2	SW340 TL	
11	4895464447	CRT	1	A34-ALL4GY25	
10	4895013700	SCREW CRT FIXING	2	3X25S BK	
9	4895024952	WASHER RUBBER	4	OR ITAO	
8	4853214601	BRKT	1	HIPS BK	
7	7128501101	SCREW TAPPING	4	TES WAS 3X10 MFZN	
6	4895031500	SPEAKER	1	AS 50X70 3W 8 OHM	
5	7128701101	SCREW TAPPING	2	TES WAS 3X10 MFZN	
4	4854944100	BUTTON	1	ABS BK	
3	4895536500	IR/LD SENSOR	1	PMMA CL	
2	4895461653	MARK BRAND	1	SILVER ETCHING 18A-CU7TIN3	
1	4852844100	FRONT MASK	1	PR HIPS BK	

3. DTQ-14V5FCM / FSM



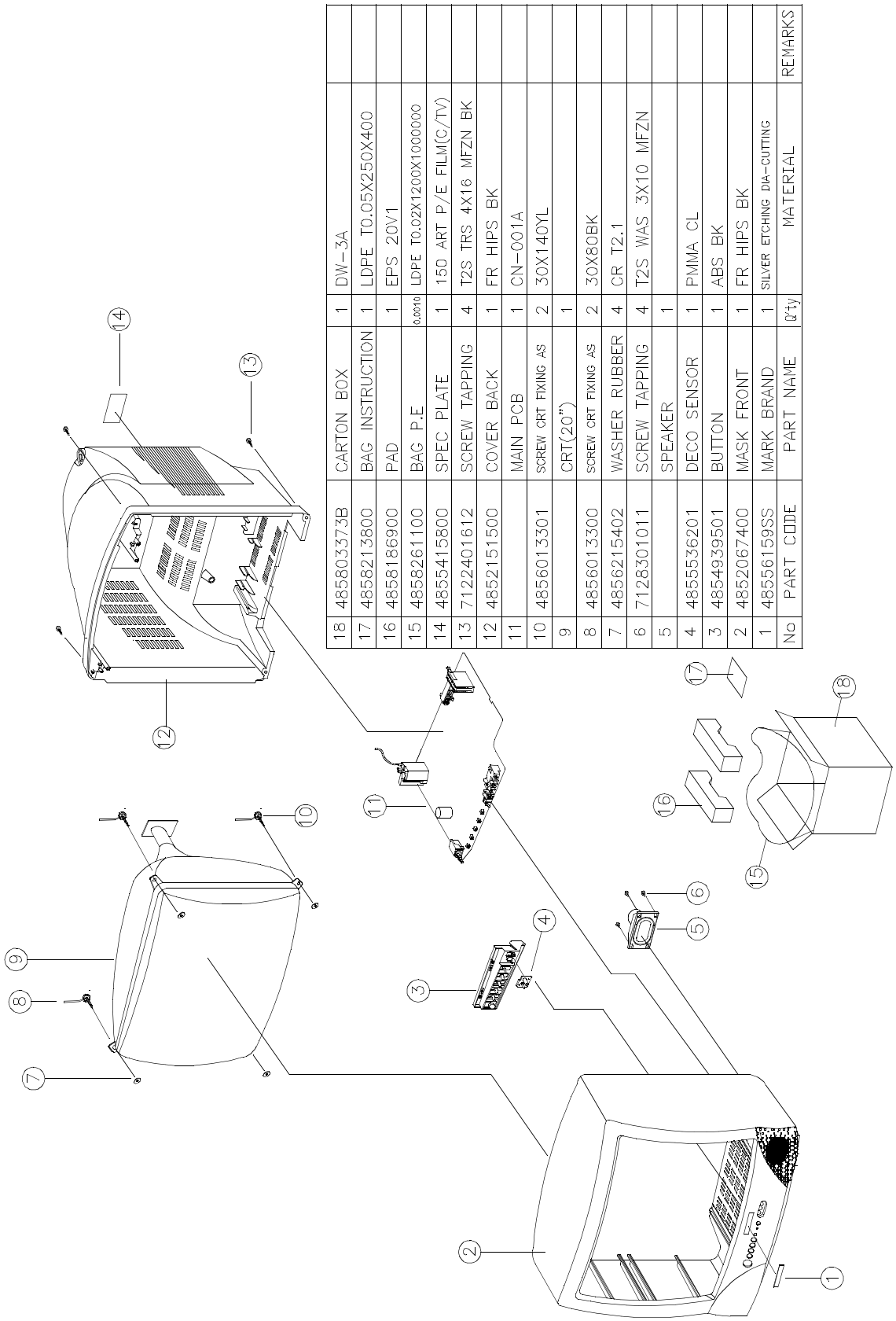
No	PART NAME	Q'ty	MATERIAL	REMARKS
28	4858038710	BOX CARTOON	1	SW-2	
27	4658261100	BAG P.E	1	LDPE T0.02X1,200X1,000	
26	4658213800	BAG INSTRUCTION	1	LD.P.E T0.05X250X400	
25	4858600101	MANUAL INSTRUCTION	1	DTQ-14V5FC/FS	
24	4858191201	PAD	1	EPS 14V5	
23	7122401612	SCREW TAPPING	1	T2S TRS 4X16 MFZN BK FBT	
22	7122401612	SCREW TAPPING	4	T2S TRS 4X16 MFZN BK	
21	4855415800	SPEC PLATE	1	150ART P/E FILM (C/TV) ENGLISH	
20	4852151400	COVER BACK	1	FR HIPS BK	
19	7174300811	SCREW TAPPITITE	1	TT2 RND 3X8 MFZN	
18	4857022710	HEAT SINK	1	SPCC T1.0+SN	
17	7174300811	SCREW TAPPITITE	1	TT2 RND 3X6 MFZN	
16	4857022760	HEAT SINK	1	AL EX BK	
15		MAIN PCB	1	PCB MAIN MANUAL AS CN-001A	
14		CRT PCB	1	PCB CRT AS	
13	7174300811	SCREW TAPPITITE	1	TT2 RND 3X8 MFZN	
12	4857031100	HEAT SINK	1	A1050P-H24 T2.0	
11		CRT	1	NTSC 14" ITC CRT AS	
10	4856013301	SCREW CRT FIXING	2	30X140 YL	
9	4856013300	SCREW CRT FIXING	2	30X80 BK	
8	4856215402	WASHER RUBBER	4	CR T2.0	
7	4853214800	BRACKET	1	FR HIPS BK	
6	7128301011	SCREW TAPPING	2	T2S WAS 3X10 MFZN	
5	4858313610	SPEAKER	1	AS50X70 3W 8OHM	
4	4854943501	BUTTON	1	ABS BK	
3	4855535501	DECO SENSOR	1	PMMA CL	"A"MOLD
2	4852077700	MASK FRONT	1	FR HIPS BK	
1	4856136SSS	MARK BRAND	1	SILVER ETCHING DIA-CUTTING	

4. DTQ-14U1FSM



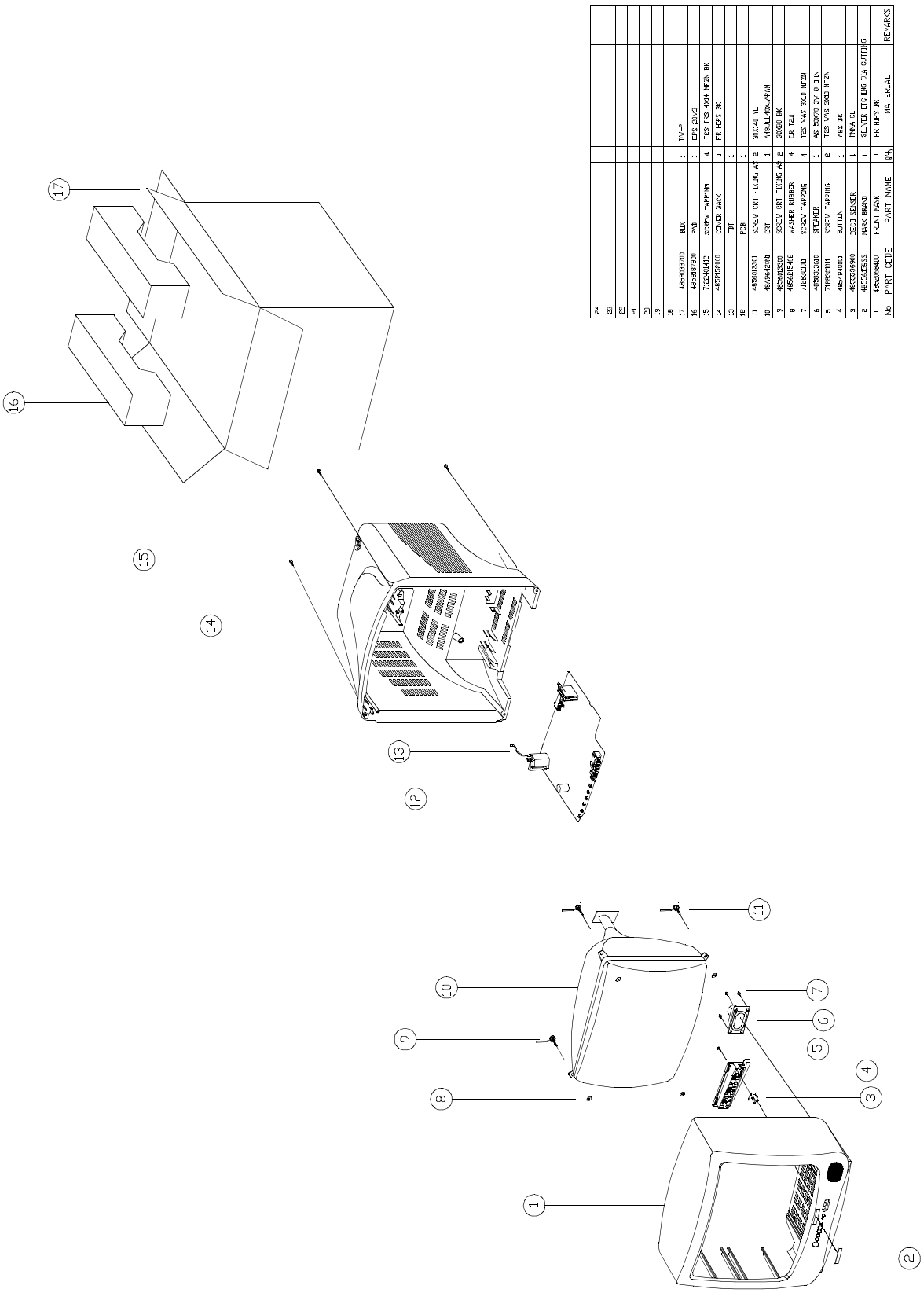
No	PART CODE	PART NAME	Q'ty	MATERIAL	REMARKS
1	48520711 00	MASK FRONT	1	FR HIPS BK	
2	48583136 10	BUTTON CTRL AS.	1	485494270 1+485536900	
3	48583136 10	SPEAKER	1	A55OX70 3W 8 OHM	
4	71283010 11	SCREW TAPPING	4	T2S WAS 3X10 MFZN	
5	48562154 02	WASHER RUBBER	4	CR T2.0	
6		CRT	1		
7	48560133 00	SCREW FIX	2	30X80 BK	
8	48560133 02	SCREW FIX	2	30X190 BK	
9		MAIN PCB	1	CN-001A	
10	48570245 00	HEAT SINK	1	AL EX B/K	
11	71743008 11	SCREW TAPPTITE	1	TT2 RND 3X8 MFZN	
12	48570189 02	HEAT SINK	1	A10509-H24	
13	71743008 11	SCREW TAPPTITE	1	TT2 RND 3X8 MFZN	
14		CRT PCB	1		
15	48570271 01	HEAT SINK	1	SPCC T1.0 + SN	
16	71743008 11	SCREW TAPPTITE	1	TT2 RND 3X8 MFZN	
17	48521530 00	COVER BACK	1	FR HIPS BK	
18	71224014 12	SCREW TAPPING	4	T2S TRS 4X14 MFZN BK	
19	48554158 00	SPEC PLATE	1	150ART P/E FILM (C/TV)	
20	48580551 00	BOX CARTON	1	SW-2	
21	48582611 00	BAG P.E	0.03	LDPE T0.2X1200X1000000	
22	48581860 0	STAPLE PIN	12	18M/M J D O	
23	48589140 00	PAD	1	EPS 20P3	
24	48561136 SS	MARK BRAND	1	SILVER ETCHING DIA-CUTTING	
25	48532148 00	BRKT PCB	1	FR HIPS	

5. DTQ-20V1FSM



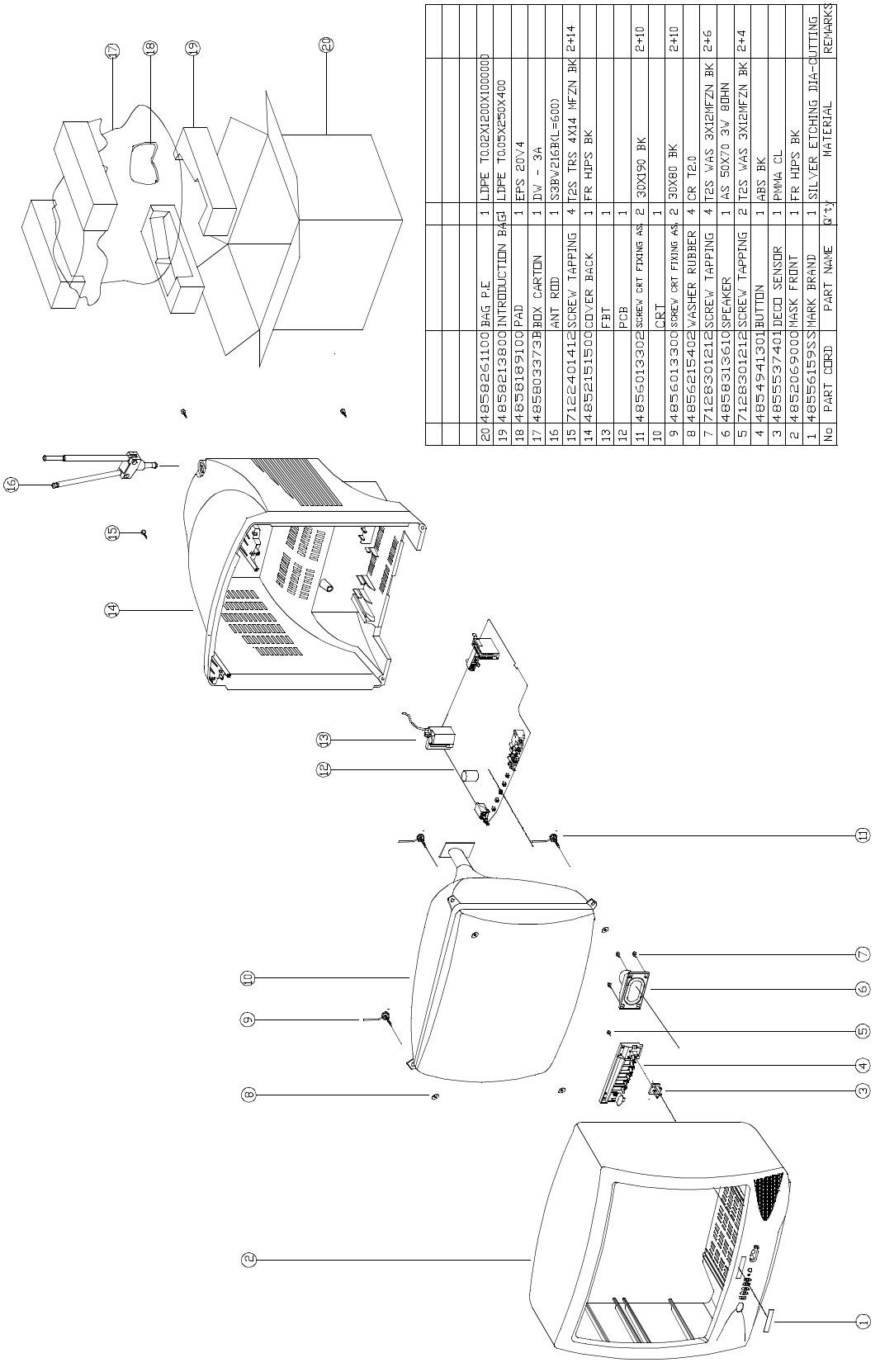
No	PART CODE	PART NAME	Q'ty	MATERIAL	REMARKS
1	4855615SS	MARK BRAND	1	SILVER ETCHING DIA-CUTTING	
2	4852067400	MASK FRONT	1	FR HIPS BK	
3	4854939501	BUTTON	1	ABS BK	
4	4855536201	DECO SENSOR	1	PMMA CL	
5		SPEAKER	1		
6	7128301011	SCREW TAPPING	4	T2S WAS 3X10 MFZN	
7	4856215402	WASHER RUBBER	4	CR T2.1	
8	4856013300	SCREW CRT FIXING AS	2	30X80BK	
9		CRT(20")	1		
10	4856013301	SCREW CRT FIXING AS	2	30X140YL	
11		MAIN PCB	1	CN-001A	
12	4852151500	COVER BACK	1	FR HIPS BK	
13	7122401612	SCREW TAPPING	4	T2S TRS 4X16 MFZN BK	
14	4855415800	SPEC PLATE	1	150 ART P/E FILM(C/TV)	
15	4858261100	BAG P.E	0.0010	LDPE T0.02X1200X1000000	
16	4858186900	PAD	1	EPS 20V1	
17	4858213800	BAG INSTRUCTION	1	LDPE T0.05X250X400	
18	485803373B	CARTON BOX	1	DW-3A	

6. DTQ-20V3FSM



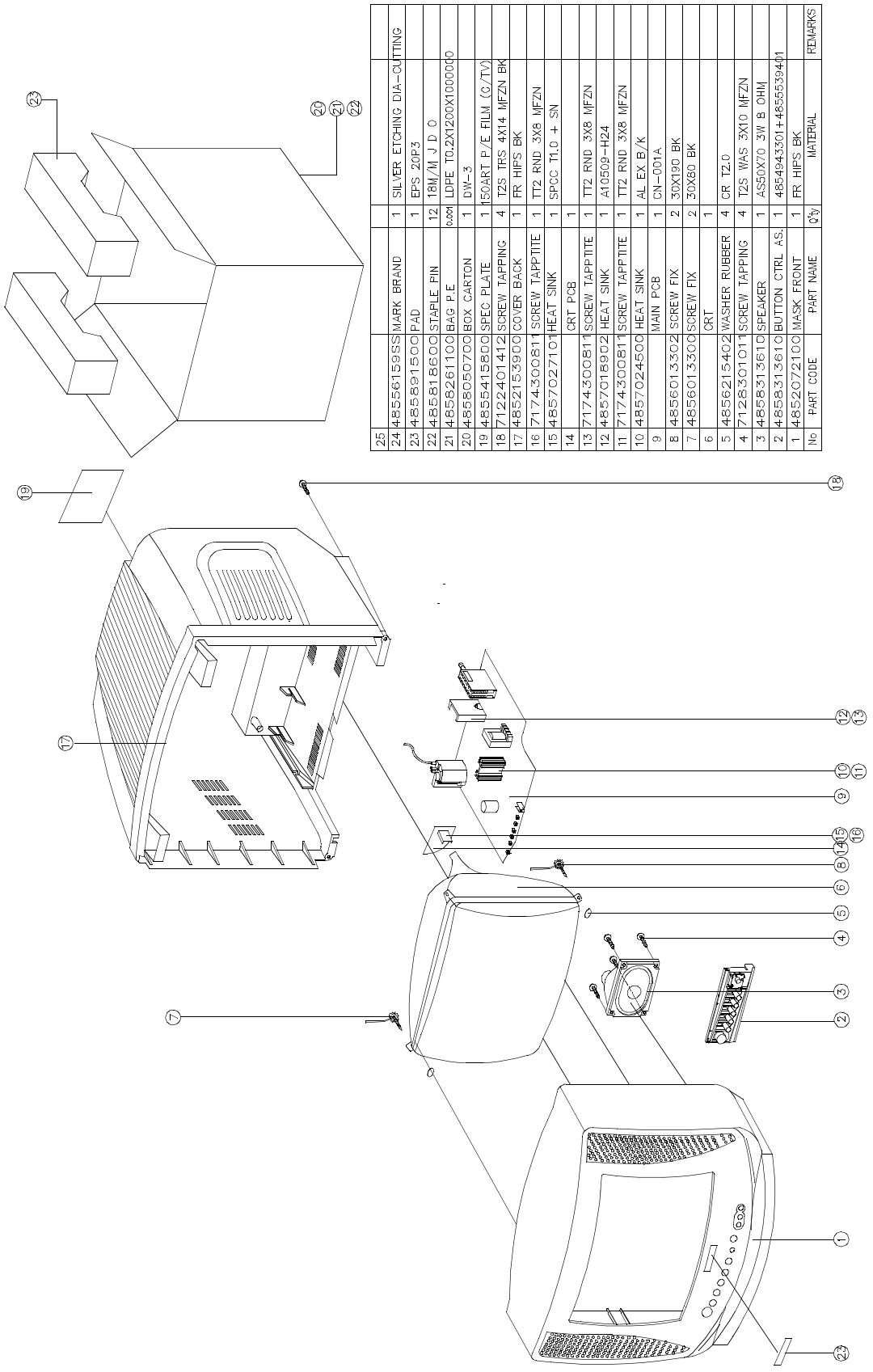
No	PART CODE	PART NAME	Q'ty	MATERIAL	REMARKS
24					
23					
22					
21					
20					
19					
18					
17	4686059700	BOX	1	DV-E	
16	4685887606	PAD	1	EPS 25D/3	
15	7022401442	SCREW TAPPING	4	TES TAS 4X14 WZN BK	
14	4685282010	COVER BACK	1	PR HIPS BK	
13		FBT	1		
12		PCB	1		
11	4685023801	SCREW CRT FIXING A2	2	360144 YL	
10	4684964206	CRT	1	A48-ELL40XLAMAN	
9	4685813301	SCREW CRT FIXING A2	2	620060 BK	
8	4685281402	WASHER RUBBER	4	CR T2.0	
7	7018500101	SCREW TAPPING	4	TES WAS 3X10 WZN	
6	4685043600	SPEAKER	1	AS 50X70 2W 8 BRN	
5	7018500111	SCREW TAPPING	2	TES WAS 3X10 WZN	
4	4685494000	BUTTON	1	ABS BK	
3	4685886969	RECEIVE SENSOR	1	PANA CL	
2	4685505A5S	MARK BRAND	1	SILVER ETCHING TAG-CUTTING	
1	4685069400	FRONT MASK	1	PR HIPS BK	

7. DTQ-20V4FSM



No	PART NAME	Q'ty	MATERIAL	REMARKS
20	485826110	1	LDPE T0.02X1200X1000000	
19	485821380	1	LDPE T0.05X250X400	
18	485818910	1	EPS 20V4	
17	485803373	1	DW - 3A	
16		1	S3BW216BKL=600	
15	712240141	4	T2S TRS 4X14 MFZN BK	2+14
14	485215150	1	FR HIPS BK	
13		1	FBT	
12		1	PCB	
11	485601330	2	SCREW CRT FIXING ASS	2+10
10		1	CRT	
9	485601330	2	SCREW CRT FIXING ASS	2+10
8	485621540	4	WASHER RUBBER	
7	712830121	4	SCREW TAPPING	2+6
6	485831361	1	SPEAKER	
5	712830121	2	SCREW TAPPING	2+4
4	485494130	1	BUTTON	
3	485553740	1	DECO SENSOR	
2	485206900	1	MASK FRONT	
1	485615955	1	MARK BRAND	

8. DTQ-20U1FSM



No	PART CODE	PART NAME	Q'ty	MATERIAL	REMARKS
25					
24	4855615955	MARK BRAND	1	SILVER ETCHING DIA-CUTTING	
23	4858915000	PAD	1	EPS 20F3	
22	4858186000	STAPLE PIN	12	18M/M J D O	
21	4858261100	BAG P.E	0.001	LDPE T0.2X1200X1000OD	
20	4858050700	BOX CARTON	1	DW-3	
19	4855415800	SPEC PLATE	1	150ART P/E FILM (C/TV)	
18	7122401412	SCREW TAPPING	4	T2S TRS 4X14 MFZN BK	
17	4852153900	COVER BACK	1	FR HIPS BK	
16	7174300811	SCREW TAPPTITE	1	TT2 RND 3X8 MFZN	
15	4857027101	HEAT SINK	1	SPCC T1.0 + SN	
14		CRT PCB	1		
13	7174300811	SCREW TAPPTITE	1	TT2 RND 3X8 MFZN	
12	4857018902	HEAT SINK	1	A10509-H24	
11	7174300811	SCREW TAPPTITE	1	TT2 RND 3X8 MFZN	
10	4857024500	HEAT SINK	1	AL EX B/K	
9		MAIN PCB	1	CN-001A	
8	4856013302	SCREW FIX	2	30X190 BK	
7	4856013300	SCREW FIX	2	30X80 BK	
6		CRT	1		
5	4856215402	WASHER RUBBER	4	CR T2.0	
4	7128301011	SCREW TAPPING	4	T2S WAS 3X10 MFZN	
3	4858313610	SPEAKER	1	AS50X70 3W 8 OHM	
2	4858313610	BUTTON CTRL ASS.	1	4854943301+4855539401	
1	4852072100	MASK FRONT	1	FR HIPS BK	

ELECTRICAL PARTS LIST

CAUTION

"⚠" is a safety patt, so it must be used the same part.
"Ⓡ" is a recommendable part for essential stock.

✔ In this Service Manual, some parts can be changed for improving, their performance without notice in the parts list. So, if you need the latest parts information, please refer to PPL(Parts Price List) in Service information Center(http://svc.dwe.co.kr)

z_loc	z_parts_code	parts_name	parts_descr	remark
ZZ100	48B4343A08	TRANSMITTER REMOCON	R-43A08 (AA)	
ZZ110	PTACPWH394	ACCESSORY AS	DTQ-14P2FC	
00010	4850A02510	ANT ROD	S3BW216B (L=600 MM)	
00030	4850Q00810	BATTERY	R6P/LN	
00040	4850A00250	TRANS ANT MATCHING	IMT-06	
10000	48586001E2	MANUAL INSTRUCTION	DTQ-20V1FS	
M821	4858213800	BAG INSTRUCTION	L.D.P.E T0.05X250X400	
ZZ120	PTBCSHH567	COVER BACK AS	DTQ-14V1FCM	
M211	4852151400	COVER BACK	FR HIPS BK	
M211B	4857817640	CLOTH BLACK	FELT 100X20X0.7	
ZZ130	PTPKCPH567	PACKING AS	DTQ-14V1FCM	
10	6520010100	STAPLE PIN	AUTO W65	
M801	485803871D	BOX CARTON	SW-2	
M811	4858186700	PAD	EPS 14V1	
M821	4858215700	BAG PE	PE FOAM t0.5x1000X950	
ZZ131	58G0000078	COIL DEGAUSSING	DC-1400	
ZZ132	48519A4710	CRT GROUND NET	1401S-1015-1P	
ZZ140	PTCACAH567	CABINET AS	DTQ-14V1FCM	
CRT1	PTRTPWH394	CRT AS	"NTSC 14"" ITC CRT AS"	⚠ Ⓡ
V01	58D0000082	COIL DY	ODY-M1489	⚠
V04	2224050026	BOND SILICON	RTV 122 CARTRIDGE	
V05	4850PM001-	MAGNET CP	NY-225 (MINI NECK)	
V06	48A96R004-	RUBBER WEDGE	HMR 28 SR (/0X54)	
V901	48A96314C3	CRT BARE	A34KQV42X	
M201A	4856013350	SCREW CRT FIXING	25X80 BK	
M201B	4856215402	WASHER RUBBER	CR T2.0	
M211A	7172401412	SCREW TAPPTITE	TT2 TRS 4X14 MFZN BK	
M541	4855415800	SPEC PLATE	150ART P/E FILM (C/TV)	
M601	4856013351	SCREW CRT FIXING	25X140 YL	
M681	4856812001	TIE CABLE	NYLON66 DA100	
SP01A	7178301011	SCREW TAPPTITE	TT2 WAS 3X10 MFZN	
ZZ200	PTFMSJH567	MASK FRONT AS	DTQ-14V1FCM	
M191	4851931800	BUTTON CTRL	4939100+5536001	
M191A	7178301011	SCREW TAPPTITE	TT2 WAS 3X10 MFZN	
M201	4852067200	MASK FRONT	FR HIPS BK	
M321	4853214800	BRKT	FR HIPS BK	
M561	4855613600	MARK BRAND	COPPER T0.4	
ZZ202	PTSPPWH407	SPEAKER AS	DTQ-14J4FC	
PA601	4850703S50	CONNECTOR	YH025-03+35098+ULW=200	
SP01	4858314010	SPEAKER	SP-5070F01 3W 8 OHM	Ⓡ
ZZ290	PTMPMSH567	PCB MAIN MANUAL AS	DTQ-14V1FCM	Ⓡ
10	2193102005	SOLDER BAR	SN:PB=63:47 S63S-1320	
30	2291050616	FLUX SOLDER	JS-64T3	
40	2291050301	FLUX SOLVENT	IM-1000	
C404	CMYH3C722H	C MYLAR	1.6KV BUP 7200PF H	

z_loc	z_parts_code	parts_name	parts_descr	remark
C406	CMYE2D434J	C MYLAR	200V PU 0.43MF J	
C801	CL1UC3104M	C LINE ACROSS	WORLD AC250V 0.1UF M R.47	
C804	CEYN2D331P	C ELECTRO	200V LHS 330MF	
D703	DLH2PR——	LED BLOCK	LH-2P-R	
I101	1LA76845N-	IC	LA76845N	Ⓡ
I301	PTD2SW7100	HEAT SINK ASS`Y	1LA78041— + 7174300811	
00001	1LA78041—	IC VERTICAL	LA78041	Ⓡ
0000A	4857027100	HEAT SINK	SPCC T1.0+SN	
0000B	7174300811	SCREW TAPPTITE	TT2 RND 3X8 MFZN	
I401	1K1A7805P1	IC REGULATOR	KIA7805API	
I601	1TDA7267—	IC AUDIO AMP	TDA7267	Ⓡ
I701	1DW8634NA3	IC MICOM	DW863432W-NA3(50C5)	Ⓡ
I703	124LC04B—	IC MEMORY	24LC04B	Ⓡ
I801	1MR2520—-	IC POWER	MR2520	⚠ Ⓡ
I805	1LTV817C—	IC PHOTO COUPLER	LTV-817C	
I806	1LTV817C—	IC PHOTO COUPLER	LTV-817C	
IL701	1356VF6—-	IC PREAMP	356VF6	
JP02	4859109950	JACK PIN BOARD	PH-JB-9710A	
JP03	4859109150	JACK PIN BOARD	PH-JB-9615C	
L501	58N0000042	COIL VCO	TRF-V008	
L801	5PLF24A1—	FILTER LINE	LF-24A1	⚠
M681	4856812001	TIE CABLE	NYLON66 DA100	
P401	4859240020	CONN WAFER	YFW500-05	
P501	4850708N11	CONNECTOR	BIC-08T-25T+C-20T+ULW=300	
PWC1	4859907910	CORD POWER AS	ME301P+TER=1830	⚠ Ⓡ
Q402	PTA2SW7201	HEAT SINK ASS`Y	T2SD2627YB + 7174300811	
00001	T2SD2627YB	TR	2SD2627LS-YB	Ⓡ
0000A	4857027201	HEAT SINK	AL T1.0	
0000B	7174300811	SCREW TAPPTITE	TT2 RND 3X8 MFZN	
R801	RX07B229JP	R CEMENT	7W 2.2 OHM J BEN 15MM 4P	
RLY1	5SC0101338	SW RELAY	DQ5D1-O(M)/GJ-SS-105LM	⚠
RS801	DSVC471D14	VARISTOR	SVC471D14A	⚠
SCT1	4859303930	SOCKET CRT	ISMG03S INCHANG	⚠ Ⓡ
SF101	5PTSF5241P	FILTER SAW	TSF5241P	
T401	50D10A3—-	TRANS DRIVE	TD-10A3	
T402	50H0000241	FBT	FSA37023M	⚠ Ⓡ
T801	50M3541T8-	TRANS SMPS	TSM-3541T8	⚠
U102	4859721730	TUNER VARACTOR	DT5-NF20F N	⚠ Ⓡ
X701	5XYR03276C	CRYSTAL QUARTZ	C-001R 32.768000KHZ 20PPM	
Z501	5PYXT4R5MB	FILTER CERA	XT 4.5MB	
ZZ200	PTMPJ2H567	PCB CHIP MOUNT B AS	DTQ-14V1FCM	
JC568	HRFS000-BA	R CHIP	1/16 0 OHM 1608	
JC701	HRFS000-BA	R CHIP	1/16 0 OHM 1608	
JC702	HRFS000-BA	R CHIP	1/16 0 OHM 1608	
JC703	HRFS000-BA	R CHIP	1/16 0 OHM 1608	

ELECTRICAL PARTS LIST

z_loc	z_parts_code	parts_name	parts_descr	remark
JC704	HRFS000-BA	R CHIP	1/16 0 OHM 1608	
RC150	HRFS153JBA	R CHIP	1/16 15K OHM J 1608	
RC151	HRFS104JBA	R CHIP	1/16 100K OHM J 1608	
RC154	HRFS473JBA	R CHIP	1/16 47K OHM J 1608	
RC156	HRFS473JBA	R CHIP	1/16 47K OHM J 1608	
RC165	HRFS472JBA	R CHIP	1/16 4.7K OHM J 1608	
RC223	HRFS224JBA	R CHIP	1/16 220K OHM J 1608	
RC224	HRFS224JBA	R CHIP	1/16 220K OHM J 1608	
RC225	HRFS392JBA	R CHIP	1/16 3.9K OHM J 1608	
RC226	HRFS101JBA	R CHIP	1/16 100 OHM J 1608	
RC227	HRFS102JBA	R CHIP	1/16 1K OHM J 1608	
RC228	HRFS103JBA	R CHIP	1/16 10K OHM J 1608	
RC229	HRFS750JBA	R CHIP	1/16 75 OHM J 1608	
RC508	HRFS102JBA	R CHIP	1/16 1K OHM J 1608	
RC509	HRFS102JBA	R CHIP	1/16 1K OHM J 1608	
RC510	HRFS331JBA	R CHIP	1/16 330 OHM J 1608	
RC511	HRFS123JBA	R CHIP	1/16 12K OHM J 1608	
RC525	HRFS102JBA	R CHIP	1/16 1K OHM J 1608	
RC526	HRFS132JBA	R CHIP	1/16 1.3K OHM J 1608	
RC530	HRFS561JBA	R CHIP	1/16 560 OHM J 1608	
RC531	HRFS561JBA	R CHIP	1/16 560 OHM J 1608	
RC533	HRFS390JBA	R CHIP	1/16 39 OHM J 1608	
RC554	HRFS514JBA	R CHIP	1/16 510K OHM J 1608	
RC557	HRFS302JBA	R CHIP	1/16 3K OHM J 1608	
RC558	HRFS103JBA	R CHIP	1/16 10K OHM J 1608	
RC559	HRFS331JBA	R CHIP	1/16 330 OHM J 1608	
RC561	HRFS301JBA	R CHIP	1/16 300 OHM J 1608	
RC562	HRFS824JBA	R CHIP	1/16 820K J 1608	
RC565	HRFS123JBA	R CHIP	1/16 12K OHM J 1608	
RC566	HRFS123JBA	R CHIP	1/16 12K OHM J 1608	
RC567	HRFS103JBA	R CHIP	1/16 10K OHM J 1608	
RC568	HRFS472FBA	R CHIP	1/16 4.7K OHM F 1608	
RC569	HRFS152JBA	R CHIP	1/16 1.5K OHM J 1608	
RC570	HRFS103JBA	R CHIP	1/16 10K OHM J 1608	
RC629	HRFS102JBA	R CHIP	1/16 1K OHM J 1608	
RC630	HRFS104JBA	R CHIP	1/16 100K OHM J 1608	
RC655	HRFS162JBA	R CHIP	1/16 1.6K OHM J 1608	
RC703	HRFS101JBA	R CHIP	1/16 100 OHM J 1608	
RC709	HRFS392JBA	R CHIP	1/16 3.9K OHM J 1608	
RC732	HRFS102JBA	R CHIP	1/16 1K OHM J 1608	
RC733	HRFS102JBA	R CHIP	1/16 1K OHM J 1608	
RC734	HRFS102JBA	R CHIP	1/16 1K OHM J 1608	
RC735	HRFS102JBA	R CHIP	1/16 1K OHM J 1608	
RC736	HRFS103JBA	R CHIP	1/16 10K OHM J 1608	
RC737	HRFS103JBA	R CHIP	1/16 10K OHM J 1608	
RC738	HRFS471JBA	R CHIP	1/16 470 OHM J 1608	
RC740	HRFS102JBA	R CHIP	1/16 1K OHM J 1608	
RC741	HRFS000-BA	R CHIP	1/16 0 OHM 1608	
RC743	HRFS472JBA	R CHIP	1/16 4.7K OHM J 1608	
RC744	HRFS242JBA	R CHIP	1/16 2.4K OHM J 1608	
RC746	HRFS752JBA	R CHIP	1/16 7.5K OHM J 1608	
RC747	HRFS243JBA	R CHIP	1/16 24K OHM J 1608	
RC751	HRFS471JBA	R CHIP	1/16 470 OHM J 1608	

z_loc	z_parts_code	parts_name	parts_descr	
RC752	HRFS471JBA	R CHIP	1/16 470 OHM J 1608	
RC755	HRFS102JBA	R CHIP	1/16 1K OHM J 1608	
RC756	HRFS102JBA	R CHIP	1/16 1K OHM J 1608	
RC763	HRFS201JBA	R CHIP	1/16 200 OHM J 1608	
RC775	HRFS472JBA	R CHIP	1/16 4.7K OHM J 1608	
RC778	HRFS103JBA	R CHIP	1/16 10K OHM J 1608	
RC779	HRFS472JBA	R CHIP	1/16 4.7K OHM J 1608	
RC781	HRFS102JBA	R CHIP	1/16 1K OHM J 1608	
RC782	HRFS331JBA	R CHIP	1/16 330 OHM J 1608	
RC783	HRFS472JBA	R CHIP	1/16 4.7K OHM J 1608	
RC784	HRFS514JBA	R CHIP	1/16 510K OHM J 1608	
RC785	HRFS000-BA	R CHIP	1/16 0 OHM 1608	
RC786	HRFS102JBA	R CHIP	1/16 1K OHM J 1608	
RC787	HRFS472JBA	R CHIP	1/16 4.7K OHM J 1608	
RC788	HRFS472JBA	R CHIP	1/16 4.7K OHM J 1608	
RC791	HRFS102JBA	R CHIP	1/16 1K OHM J 1608	
RC792	HRFS102JBA	R CHIP	1/16 1K OHM J 1608	
RC793	HRFS102JBA	R CHIP	1/16 1K OHM J 1608	
RC794	HRFS102JBA	R CHIP	1/16 1K OHM J 1608	
RC797	HRFS103JBA	R CHIP	1/16 10K OHM J 1608	
RC799	HRFS103JBA	R CHIP	1/16 10K OHM J 1608	
RC917	HRFS241JBA	R CHIP	1/16 240 OHM J 1608	
RC918	HRFS241JBA	R CHIP	1/16 240 OHM J 1608	
RC919	HRFS241JBA	R CHIP	1/16 240 OHM J 1608	
RC923	HRFS471JBA	R CHIP	1/16 470 OHM J 1608	
RC924	HRFS471JBA	R CHIP	1/16 470 OHM J 1608	
RC925	HRFS471JBA	R CHIP	1/16 470 OHM J 1608	
RC933	HRFS471JBA	R CHIP	1/16 470 OHM J 1608	
RC934	HRFS471JBA	R CHIP	1/16 470 OHM J 1608	
RC935	HRFS471JBA	R CHIP	1/16 470 OHM J 1608	
RC977	HRFS201JBA	R CHIP	1/16 200 OHM J 1608	
ZZ200	PTMPJ0H567	PCB MAIN (RHU) AS	DTQ-14V1FCM	
C105	CEXF1C471V	C ELECTRO	16V RSS 470MF (8X12)TP	
C310	CEXF1E102V	C ELECTRO	25V RSS 1000MF (13X20) TP	
C410	CEXF2E100V	C ELECTRO	250V RSS 10MF (10X20) TP	
C414	CEXF1V471V	C ELECTRO	35V RSS 470MF (10X20) TP	
C415	CEXF1C102V	C ELECTRO	16V RSS 1000MF (10X20) TP	
C502	CEXF1C471V	C ELECTRO	16V RSS 470MF (8X12)TP	
C507	CMXM2A224J	C MYLAR	100V 0.22MF J	
C508	CMXM2A224J	C MYLAR	100V 0.22MF J	
C510	CEXF1C471V	C ELECTRO	16V RSS 470MF (8X12)TP	
C514	CEXF1C471V	C ELECTRO	16V RSS 470MF (8X12)TP	
C602	CEXF1C102V	C ELECTRO	16V RSS 1000MF (10X20) TP	
C646	CEXF1C471V	C ELECTRO	16V RSS 470MF (8X12)TP	
C809	CBXB3D102K	C CERA SEMI	2KV BL(N) 1000PF K (T)	
C812	CEXF1C102V	C ELECTRO	16V RSS 1000MF (10X20) TP	
C813	CCXB3A221K	C CERA	1KV B 220PF K (TAPPING)	
C814	CEXF2C101V	C ELECTRO	160V RSS 100MF (16X25) TP	
C820	CEXF2C101V	C ELECTRO	160V RSS 100MF (16X25) TP	
C881	CH1BEE472M	C CERA AC	U/C/V 2.5KV 4700PF TP	⚠
C882	CH1BEE472M	C CERA AC	U/C/V 2.5KV 4700PF TP	⚠
C912	CH1BEE472M	C CERA AC	U/C/V 2.5KV 4700PF TP	
F802	5FUMK4021L	FUSE GLASS TUBE	UL TL 4.0A 125V CASE	⚠ Ⓡ

z_loc	z_parts_code	parts_name	parts_descr	remark
R881	DDT7R0M140	POSISTOR	ECPAC7R0M140	
ZZ200	PTMPJBH567	PCB MAIN M-10 AS	DTQ-14V1FCM	
10	2TM18006BE	TAPE MASKING	6.2X500	
D401	D1N4937G—	DIODE	1N4937G (TAPPING)	
D405	D1N4937G—	DIODE	1N4937G (TAPPING)	
D406	D1N4937G—	DIODE	1N4937G (TAPPING)	
D407	D1N4937G—	DIODE	1N4937G (TAPPING)	
D408	D1N4937G—	DIODE	1N4937G (TAPPING)	
D807	DRGP15J—-	DIODE	RGP15J	
D810	D1N4937G—	DIODE	1N4937G (TAPPING)	
D811	D1N4937G—	DIODE	1N4937G (TAPPING)	
D881	DLT2A05G—	DIODE	LT2A05G (TP)	
D882	DLT2A05G—	DIODE	LT2A05G (TP)	
D883	DLT2A05G—	DIODE	LT2A05G (TP)	
D884	DLT2A05G—	DIODE	LT2A05G (TP)	
E001	4856310600	EYE LET	BSR T0.2 (R2.3)	
E006	4856310600	EYE LET	BSR T0.2 (R2.3)	
E007	4856310600	EYE LET	BSR T0.2 (R2.3)	
E008	4856310600	EYE LET	BSR T0.2 (R2.3)	
E011	4856310300	EYE LET	BSR T0.2 (R1.6)	
E012	4856310300	EYE LET	BSR T0.2 (R1.6)	
E013	4856310300	EYE LET	BSR T0.2 (R1.6)	
E014	4856310300	EYE LET	BSR T0.2 (R1.6)	
E018	4856310300	EYE LET	BSR T0.2 (R1.6)	
E020	4856310300	EYE LET	BSR T0.2 (R1.6)	
E023	4856310300	EYE LET	BSR T0.2 (R1.6)	
E025	4856310300	EYE LET	BSR T0.2 (R1.6)	
E030	4856310600	EYE LET	BSR T0.2 (R2.3)	
E031	4856310600	EYE LET	BSR T0.2 (R2.3)	
E034	4856310600	EYE LET	BSR T0.2 (R2.3)	
E036	4856310600	EYE LET	BSR T0.2 (R2.3)	
E038	4856310600	EYE LET	BSR T0.2 (R2.3)	
E039	4856310300	EYE LET	BSR T0.2 (R1.6)	
E040	4856310300	EYE LET	BSR T0.2 (R1.6)	
E041	4856310300	EYE LET	BSR T0.2 (R1.6)	
E043	4856310300	EYE LET	BSR T0.2 (R1.6)	
E044	4856310300	EYE LET	BSR T0.2 (R1.6)	
E045	4856310300	EYE LET	BSR T0.2 (R1.6)	
E046	4856310300	EYE LET	BSR T0.2 (R1.6)	
P601	485923162S	CONN WAFER	YW025-03 (STICK)	
P801A	4857417500	TERM PIN	DA-IB0214(D2.3/DY PIN)	
P801B	4857417500	TERM PIN	DA-IB0214(D2.3/DY PIN)	
R601	RF01Z688K-	R FUSIBLE	1W 0.68 OHM K (TAPPING)	
R805	RS02Z228JS	R M-OXIDE FILM	2W 0.22 OHM J SMALL	
R814	RS02Z828JS	R M-OXIDE FILM	2W 0.82 OHM J SMALL	
ZZ200	PTMPJRH567	PCB MAIN RADIAL AS	DTQ-14V1FCM	
C101	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	
C102	CEXF1C101V	C ELECTRO	16V RSS 100MF (6.3X11) TP	
C103	CEXF1H339V	C ELECTRO	50V RSS 3.3MF (5X11) TP	
C104	CMXM2A333J	C MYLAR	100V 0.033MF J (TP)	
C106	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	
C212	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	
C235	CEXD1H229F	C ELECTRO	50V RND 2.2MF (5X11) TP	

z_loc	z_parts_code	parts_name	parts_descr	remark
C301	CMXM2A103J	C MYLAR	100V 0.01MF J (TP)	
C302	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP	
C303	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	
C305	CEXF1H101V	C ELECTRO	50V RSS 100MF (8X11.5) TP	
C307	CXSL2H100D	C CERA	500V SL 10PF D (TAPPING)	
C308	CMXM2A104J	C MYLAR	100V 0.1MF J (TP)	
C311	CEXD1H229Q	C ELECTRO	50V RT 2.2MF (6.3X11) TP	
C401	CCXB2H102K	C CERA	500V B 1000PF K (TAPPING)	
C403	CMXM2A103J	C MYLAR	100V 0.01MF J (TP)	
C405	CEXF2C109V	C ELECTRO	160V RSS 1MF (6.3X11) TP	
C411	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	
C413	CCXB2H102K	C CERA	500V B 1000PF K (TAPPING)	
C418	CMXM2A104J	C MYLAR	100V 0.1MF J (TP)	
C451	CEXF1C101V	C ELECTRO	16V RSS 100MF (6.3X11) TP	
C452	CEXF1C221V	C ELECTRO	16V RSS 220MF (8X11.5) TP	
C501	CMXL1J105J	C MYLAR	63V MEU 1MF J	
C509	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	
C511	CMXM2A333J	C MYLAR	100V 0.033MF J (TP)	
C512	CEXF1H108V	C ELECTRO	50V RSS 0.1MF (5X11) TP	
C513	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	
C516	CEXF1H229V	C ELECTRO	50V RSS 2.2MF (5X11) TP	
C517	CMXM2A473J	C MYLAR	100V 0.047MF J (TP)	
C518	CEXF1H478V	C ELECTRO	50V RSS 0.47MF (5X11) TP	
C519	CEXF1H478V	C ELECTRO	50V RSS 0.47MF (5X11) TP	
C520	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	
C525	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	
C554	CMXM2A153J	C MYLAR	100V 0.015MF J (TP)	
C556	CXCH1H809D	C CERA	50V CH 8PF D (TAPPING)	
C576	CEXF1C221V	C ELECTRO	16V RSS 220MF (8X11.5) TP	
C580	CCXB1H152K	C CERA	50V B 1500PF K (TAPPING)	
C581	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	
C601	CMXM2A103J	C MYLAR	100V 0.01MF J (TP)	
C603	CEXF1H108V	C ELECTRO	50V RSS 0.1MF (5X11) TP	
C604	CEXF1C101V	C ELECTRO	16V RSS 100MF (6.3X11) TP	
C634	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP	
C662	CCXF1H153Z	C CERA	50V F 0.015MF Z	
C701	CEXF1H470V	C ELECTRO	50V RSS 47MF (6.3X11) TP	
C702	CEXF1C221V	C ELECTRO	16V RSS 220MF (8X11.5) TP	
C703	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	
C704	CEXF1H229V	C ELECTRO	50V RSS 2.2MF (5X11) TP	
C705	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	
C757	CCXF1H333Z	C CERA	50V F 0.033MF Z (TAPPING)	
C807	CEXF1E221V	C ELECTRO	25V RSS 220MF (8X11.5) TP	
C810	CCXB2H222K	C CERA	500V B 2200PF K (TAPPING)	⚠
C811	CCXB2H222K	C CERA	500V B 2200PF K (TAPPING)	⚠
C815	CEXF2A100V	C ELECTRO	100V RSS 10MF (6.3X11) TP	
C818	CEXF1C101V	C ELECTRO	16V RSS 100MF (6.3X11) TP	
C819	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP	
C871	CMXM2A682J	C MYLAR	100V 6800PF J (TP)	
C876	CEXF1C101V	C ELECTRO	16V RSS 100MF (6.3X11) TP	
C892	CMXM2A102J	C MYLAR	100V 1000PF J (TP)	
I803	1KA431L—-	IC	KA431L	
L601	58CX430599	COIL CHOKE	AZ-9004Y 940K TP	

ELECTRICAL PARTS LIST

z_loc	z_parts_code	parts_name	parts_descr	remark
L805	58CX430599	COIL CHOKE	AZ-9004Y 940K TP	
L901	5CPX121J—	COIL PEAKING	120UH J (RADIAL)	
Q201	TKSC945CY-	TR	KSC 945C-Y (TAPPING)	
Q401	TKSC2330Y-	TR	KSC2330Y (TP)	
Q404	TKSC945CY-	TR	KSC 945C-Y (TAPPING)	
Q501	TKTA1266Y-	TR	KTA1266Y (TP)	
Q575	TKTA1275Y-	TR	KTA1275Y (TP)	
Q653	TKSC945CY-	TR	KSC 945C-Y (TAPPING)	
Q701	TKSC945CY-	TR	KSC 945C-Y (TAPPING)	
Q703	TKSC945CY-	TR	KSC 945C-Y (TAPPING)	
Q704	TKTA1266Y-	TR	KTA1266Y (TP)	
Q707	TKSC945CY-	TR	KSC 945C-Y (TAPPING)	
Q804	TKTA1275Y-	TR	KTA1275Y (TP)	
Q805	TKTC3205Y-	TR	KTC3205Y (TP)	
Q806	TKTA1266Y-	TR	KTA1266Y (TP)	
Q871	TKSC945CY-	TR	KSC 945C-Y (TAPPING)	
Q873	TKSC945CY-	TR	KSC 945C-Y (TAPPING)	
Q902	TKSC2330Y-	TR	KSC2330Y (TP)	
Q903	TKSC2330Y-	TR	KSC2330Y (TP)	
Q904	TKSC2330Y-	TR	KSC2330Y (TP)	
Q977	TKTA1266Y-	TR	KTA1266Y (TP)	
R301	RN01B471JS	R METAL FILM	1W 470 OHM J SMALL	
R302	RN02B471JS	R METAL FILM	2W 470 OHM J SMALL	
R303	RN01B129JS	R METAL FILM	1W 1.2 OHM J SMALL	
R305	RN01B331JS	R METAL FILM	1W 330 OHM J SMALL	
R403	RN01B562JS	R METAL FILM	1W 5.6K OHM J SMALL	
R411	RN02B150JS	R METAL FILM	2W 15 OHM J SMALL	
R412	RN01B369JS	R METAL FILM	1W 3.6 OHM J SMALL	
R413	RN01B229JS	R METAL FILM	1W 2.2 OHM J SMALL	
R414	RN01B229JS	R METAL FILM	1W 2.2 OHM J SMALL	
R418	RN02B150JS	R METAL FILM	2W 15 OHM J SMALL	
R420	RN02B620JS	R METAL FILM	2W 62 OHM J SMALL	
R817	RN01B471JS	R METAL FILM	1W 470 OHM J SMALL	
R913	RN02B153JS	R METAL FILM	2W 15K OHM J SMALL	
R914	RN02B153JS	R METAL FILM	2W 15K OHM J SMALL	
R915	RN02B153JS	R METAL FILM	2W 15K OHM J SMALL	
SW701	5S50101090	SW TACT	THVH472GCA	
SW702	5S50101090	SW TACT	THVH472GCA	
SW703	5S50101090	SW TACT	THVH472GCA	
SW704	5S50101090	SW TACT	THVH472GCA	
SW705	5S50101090	SW TACT	THVH472GCA	
SW706	5S50101090	SW TACT	THVH472GCA	
X502	5XEX3R579C	CRYSTAL QUARTZ	HC-49/U 3.579545M (TP)	
ZZ200	PTMPJAH567	PCB MAIN AXIAL AS	DTQ-14V1FCM	
10	2TM10006LB	TAPE MASKING	3M #232-MAP-C 6.2X2000M	
20	2TM14006LB	TAPE MASKING	3M #232 6.0X2000M	
A001	4859815791	PCB MAIN	246X246	
C109	CCZF1H103Z	C CERA	50V F 0.01MF Z	
C152	CCZF1H103Z	C CERA	50V F 0.01MF Z	
C153	CCZF1H103Z	C CERA	50V F 0.01MF Z	
C154	CCZF1H103Z	C CERA	50V F 0.01MF Z	
C155	CCZF1H103Z	C CERA	50V F 0.01MF Z	
C527	CCZB1H102K	C CERA	50V B 1000PF K (AXIAL)	

z_loc	z_parts_code	parts_name	parts_descr	
C551	CCZB1H101K	C CERA	50V B 100PF K (AXIAL)	
C552	CCZB1H101K	C CERA	50V B 100PF K (AXIAL)	
C555	CBZR1C392M	C CERA	16V Y5R 3900PF M (AXIAL)	
C560	CCZF1H103Z	C CERA	50V F 0.01MF Z	
C562	CZCH1H180J	C CERA	50V CH 18PF J (AXIAL)	
C567	CCZB1H181K	C CERA	50V B 180PF K (AXIAL)	
C568	CCZF1H103Z	C CERA	50V F 0.01MF Z	
C569	CCZF1H103Z	C CERA	50V F 0.01MF Z	
C570	CBZF1H104Z	C CERA SEMI	50V F 0.1MF Z	
C571	CBZF1H104Z	C CERA SEMI	50V F 0.1MF Z	
C573	CBZF1H104Z	C CERA SEMI	50V F 0.1MF Z	
C612	CBZF1H104Z	C CERA SEMI	50V F 0.1MF Z	
C752	CZCH1H180J	C CERA	50V CH 18PF J (AXIAL)	
C753	CZCH1H180J	C CERA	50V CH 18PF J (AXIAL)	
C754	CCZF1H103Z	C CERA	50V F 0.01MF Z	
C755	CCZF1H103Z	C CERA	50V F 0.01MF Z	
C756	CCZB1H221K	C CERA	50V B 220PF K (AXIAL)	
C758	CCZB1H101K	C CERA	50V B 100PF K (AXIAL)	
C759	CCZB1H101K	C CERA	50V B 100PF K (AXIAL)	
C760	CCZB1H101K	C CERA	50V B 100PF K (AXIAL)	
C768	CCZB1H101K	C CERA	50V B 100PF K (AXIAL)	
C790	CCZF1H103Z	C CERA	50V F 0.01MF Z	
C796	CCZF1H103Z	C CERA	50V F 0.01MF Z	
C870	CBZF1H104Z	C CERA SEMI	50V F 0.1MF Z	
C891	CZSL1H470J	C CERA	50V SL 47PF J (AXIAL)	
C902	CCZB1H271K	C CERA	50V B 270PF K	
C903	CCZB1H271K	C CERA	50V B 270PF K	
C904	CCZB1H271K	C CERA	50V B 270PF K	
D101	DUZ33B——	DIODE ZENER	UZ-33B	
D102	DUZ5R1B—-	DIODE ZENER	UZ-5.1B	
D221	D1N4148—-	DIODE	1N4148 (TAPPING)	
D301	D1N4004S—	DIODE	1N4004S	
D311	DBZX55C62-	DIODE ZENER	BZX55C-62	
D312	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
D409	D1N4148—-	DIODE	1N4148 (TAPPING)	
D503	DUZ9R1BM—	DIODE ZENER	UZ-9.1BM	
D504	D1N4148—-	DIODE	1N4148 (TAPPING)	
D505	DUZ9R1BM—	DIODE ZENER	UZ-9.1BM	
D571	D1N4148—-	DIODE	1N4148 (TAPPING)	
D572	D1N4148—-	DIODE	1N4148 (TAPPING)	
D573	D1N4148—-	DIODE	1N4148 (TAPPING)	
D574	D1N4148—-	DIODE	1N4148 (TAPPING)	
D701	D1N4148—-	DIODE	1N4148 (TAPPING)	
D704	DUZ3R9B—-	DIODE ZENER	UZ-3.9B	
D777	DUZ5R6BM—	DIODE ZENER	UZ-5.6BM	
D805	DUZ3R9B—-	DIODE ZENER	UZ-3.9B	
D806	D1N4148—-	DIODE	1N4148 (TAPPING)	
D812	DUZ5R6BM—	DIODE ZENER	UZ-5.6BM	
D813	D1N4937G—	DIODE	1N4937G (TAPPING)	
D841	D1N4937G—	DIODE	1N4937G (TAPPING)	
J001	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J002	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J003	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	

z_loc	z_parts_code	parts_name	parts_descr	remark
J007	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J009	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J010	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J011	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J012	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J013	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J014	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J015	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J016	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J017	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J018	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J019	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J020	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J021	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J022	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J023	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J024	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J025	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J026	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J028	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J029	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J030	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J032	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J034	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J036	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J042	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J045	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J047	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J050	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J053	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J055	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J056	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J057	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J058	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J060	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J062	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J072	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J080	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J111	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J112	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J113	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J202	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J402	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J444	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J445	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J507	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J508	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J512	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J524	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J567	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J570	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J652	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J708	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	

z_loc	z_parts_code	parts_name	parts_descr	remark
J709	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J710	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J711	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J712	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J713	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J714	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J733	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J734	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J738	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J739	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J753	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J770	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J778	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J790	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J809	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J810	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J840	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J841	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J842	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J843	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J844	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J860	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J861	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J862	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J881	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J923	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J924	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J925	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J977	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J999	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
L111	5CPZ568M02	COIL PEAKING	0.56UH M (AXIAL 3.5MM)	
L112	5CPZ569K02	COIL PEAKING	5.6UH K (AXIAL 3.5MM)	
L502	5CPZ470K04	COIL PEAKING	47UH 10.5MM K (LAL04TB)	
L533	5CPZ150K02	COIL PEAKING	15UH K (AXIAL 3.5MM)	
L701	5CPZ220K02	COIL PEAKING	22UH K (AXIAL 3.5MM)	
L807	5MC0000100	COIL BEAD	HC-3550	
L811	5MC0000100	COIL BEAD	HC-3550	
L841	5MC0000100	COIL BEAD	HC-3550	
R105	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	
R306	RD-AZ273J-	R CARBON FILM	1/6 27K OHM J	
R307	RD-AZ333J-	R CARBON FILM	1/6 33K OHM J	
R308	RD-AZ222J-	R CARBON FILM	1/6 2.2K OHM J	
R309	RD-AZ113J-	R CARBON FILM	1/6 11K OHM J	
R351	RD-AZ682J-	R CARBON FILM	1/6 6.8K OHM J	
R352	RN-4Z1603F	R METAL FILM	1/4 160K OHM F	
R353	RN-4Z1502F	R METAL FILM	1/4 15K OHM F	
R401	RD-4Z472J-	R CARBON FILM	1/4 4.7K OHM J	
R405	RD-2Z751J-	R CARBON FILM	1/2 750 OHM J	
R416	RD-2Z121J-	R CARBON FILM	1/2 120 OHM J	
R417	RD-4Z302J-	R CARBON FILM	1/4 3K OHM J	
R423	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
R424	RD-AZ331J-	R CARBON FILM	1/6 330 OHM J	
R451	RD-4Z153J-	R CARBON FILM	1/4 15K OHM J	

ELECTRICAL PARTS LIST

z_loc	z_parts_code	parts_name	parts_descr	remark
R452	RD-4Z113J-	R CARBON FILM	1/4 11K OHM J	
R501	RD-2Z151J-	R CARBON FILM	1/2 150 OHM J	
R502	RD-2Z151J-	R CARBON FILM	1/2 150 OHM J	
R503	RD-AZ752J-	R CARBON FILM	1/6 7.5K OHM J	
R504	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
R548	RD-AZ154J-	R CARBON FILM	1/6 150K OHM J	
R551	RD-AZ121J-	R CARBON FILM	1/6 120 OHM J	
R555	RD-AZ241J-	R CARBON FILM	1/6 240 OHM J	
R591	RD-4Z331J-	R CARBON FILM	1/4 330 OHM J	
R592	RD-4Z331J-	R CARBON FILM	1/4 330 OHM J	
R593	RD-4Z331J-	R CARBON FILM	1/4 330 OHM J	
R602	RD-2Z271J-	R CARBON FILM	1/2 270 OHM J	
R604	RD-4Z682J-	R CARBON FILM	1/4 6.8K OHM J	
R652	RD-AZ392J-	R CARBON FILM	1/6 3.9K OHM J	
R656	RD-AZ471J-	R CARBON FILM	1/6 470 OHM J	
R701	RD-AZ479J-	R CARBON FILM	1/6 4.7 OHM J	
R704	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
R705	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	
R706	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	
R707	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
R750	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	
R770	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
R776	RD-AZ473J-	R CARBON FILM	1/6 47K OHM J	
R777	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
R780	RD-AZ623J-	R CARBON FILM	1/6 62K OHM J	
R789	RD-4Z102J-	R CARBON FILM	1/4 1K OHM J	
R790	RD-4Z102J-	R CARBON FILM	1/4 1K OHM J	
R796	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
R807	RD-2Z105J-	R CARBON FILM	1/2 1M OHM J	
R813	RD-4Z363J-	R CARBON FILM	1/4 36K OHM J	
R819	RD-4Z561J-	R CARBON FILM	1/4 560 OHM J	
R820	RD-4Z392J-	R CARBON FILM	1/4 3.9K OHM J	
R821	RD-AZ363J-	R CARBON FILM	1/6 36K OHM J	
R822	RD-AZ363J-	R CARBON FILM	1/6 36K OHM J	
R824	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
R827	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
R868	RN-AZ2201F	R METAL FILM	1/6 2.2K OHM F	
R869	RD-AZ154J-	R CARBON FILM	1/6 150K OHM J	
R870	RN-AZ1302F	R METAL FILM	1/6 13K OHM F	
R871	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
R872	RD-AZ202J-	R CARBON FILM	1/6 2K OHM J	
R873	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
R874	RD-AZ202J-	R CARBON FILM	1/6 2K OHM J	
R875	RD-AZ362J-	R CARBON FILM	1/6 3.6K OHM J	
R876	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	
R877	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
R878	RN-AZ5102F	R METAL FILM	1/6 51.0K OHM F	
R879	RN-AZ5102F	R METAL FILM	1/6 51.0K OHM F	
R888	RC-2Z565KP	R CARBON COMP	1/2 5.6M OHM K	⚠
R891	RD-4Z479J-	R CARBON FILM	1/4 4.7 OHM J	
R892	RD-4Z153J-	R CARBON FILM	1/4 15K OHM J	
R893	RN-4Z2002F	R METAL FILM	1/4 20.0K OHM F	
R901	RD-4Z474J-	R CARBON FILM	1/4 470K OHM J	

z_loc	z_parts_code	parts_name	parts_descr	
R910	RD-2Z332J-	R CARBON FILM	1/2 3.3K OHM J	
R911	RD-2Z332J-	R CARBON FILM	1/2 3.3K OHM J	
R912	RD-2Z332J-	R CARBON FILM	1/2 3.3K OHM J	
R978	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
R979	RD-AZ152J-	R CARBON FILM	1/6 1.5K OHM J	

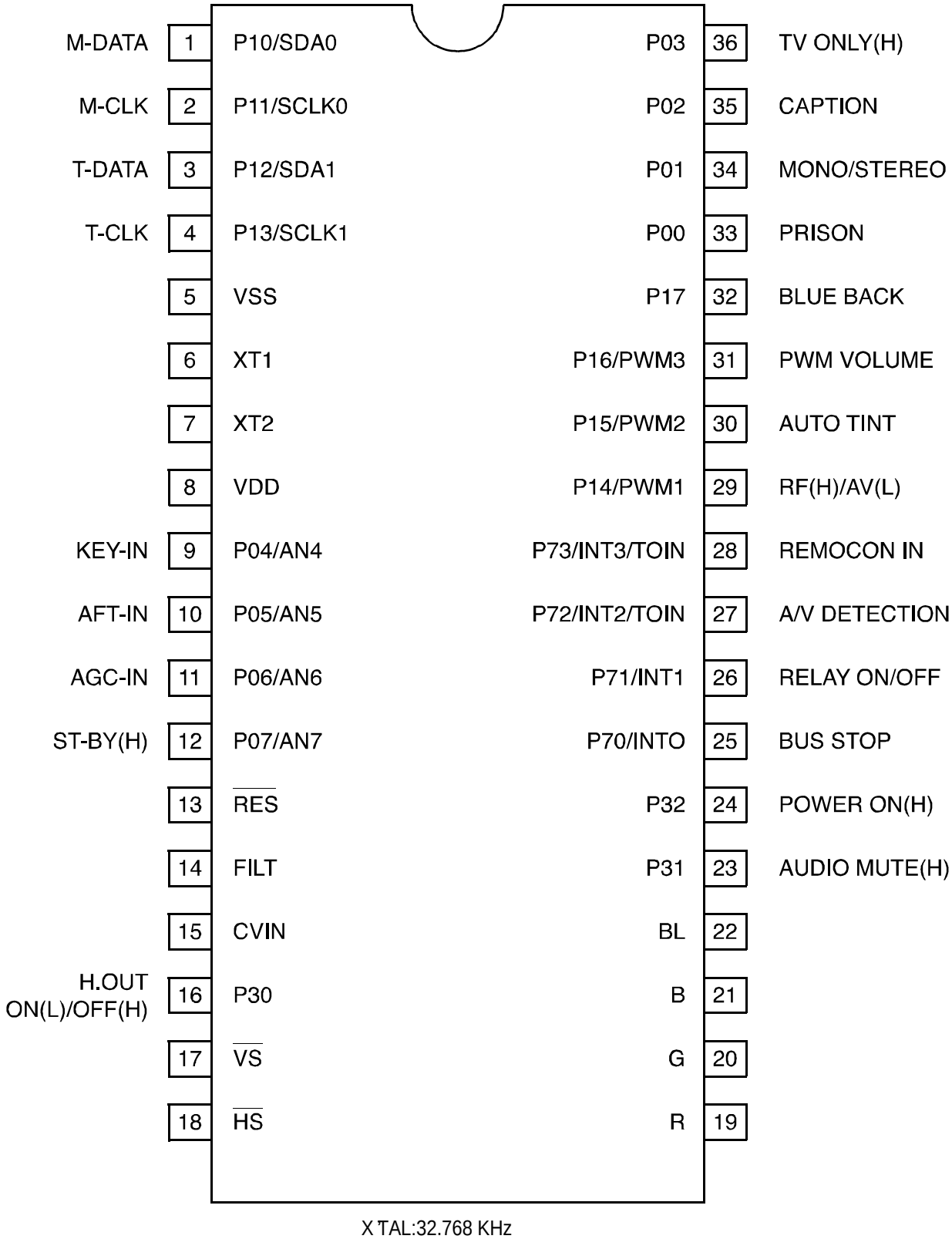
DAEWOO

DAEWOO ELECTRONICS CO., LTD

686, AHYEON-DONG MAPO-GU
SEOUL, KOREA
C.P.O. BOX 8003 SEOUL, KOREA
TELEX : DWELEC K28177-8
CABLE : "DAEWOOELEC"

IC DESCRIPTION

U-COM(I701)



1. Abstract.

This specification is 1-Tuner Mono Model for North/South America, CCD 1-Chip MICOM LC863228A.
It is developing software specification for tuning only NTSC

2. H/W Outline.

1) ROM : 28,672 x 8bits.tsc
: 15,872 x 8 bits for CGROM.
2) RAM : 512 x 8bits.
: 352 x 9bits.(for CRT Display)
3) OSD Function.

- Screen Display. : 36 characters x 16 lines.(by software)
- RAM : 352 words. (9 bits per word)
  Display area. : 36 words. x 8 lines.
  1st control area. : 8 words. x 8 lines.
- Characters.
  244 patterns programmable.
  Up to 244 kinds of 16 x 17 dot characters.
  Up to 244 kinds of 8 x 9 dot characters.
  or
  Up to 244 kinds of 16 x 32 dot characters used 16K bytes.
- Various characters attributes.
  Character colors. : 16 colors
  Character background colors. : 16 colors
  Fringe / shadow colors. : 16 colors
  Full screen colors. : 16 colors
  Rounding.
  Underline.
  Italic character.(slanting)
- Attribute can be changed without spacing.
- Vertical display start line number can be set for each row independently.(Row can be overlapped.)
- Horizontal display start position can be set for each row independently.
- Different display modes can be set for each row independently.
  Caption and Text mode/ OSD mode 1/ OSD mode 2(Quarter size)/ Simplified graphic mode.
- Ten character sizes.
  Horiz. x Vert. = (1x1),(1x2),(2x2),(2x4),(0.5x0.5)
  (1.5x1),(1.5x2),(3x2),(3x4),(0.75x0.5)
- Shuttering and scrolling on each row.

3. System Feature.

1) The system for TV tuning is Frequency Synthesis type.
2) Closed Captions function is interior designed.

3) On Screen Displays function is interior designed.
4) Package. : 36 PIN SDIP.
5) Tuner (Pre-scaler.) : I^2C Bus.
/PLL IC : TAU 6014-S(SIEMENS).
6) Remocon. : The IC of Transmission (MITSUBISHI M50560)
7) E^2PROM. : 24C04(I^2C Bus) ◊ Apply one byte Read/Write mode.
8) 6-Local Key. : A/D Input Control.(Power, Ch Up/Down, Vol Up/Down, Menu)
9) Option S/W : Port Input Option Check.
10) IF/V/C/D IC :DTC814(LA79814)

4. Function.

1) C. C. D. function.
- A section of C. C. D. operates FCC based specification.

2) C. C. D. controlled function.
- Closed Caption Mode. (Off<-->C1<-->C2<-->T1<-->T2<-->Off)
- CC On Mute.(Off <-->C1<-->C2<-->Off)
- Closed Caption is prior to CC On Mute.

3) Tuning Function.
- I^2C Bus.
- PLL IC Interface.
- FS 181 Channel (AIR 2-69CH, CABLE 1-125CH)
- AFT Operation(Fine Tuning) -2.5Fn+2.5MHz
- AIR/CABLE (STD, HRC, IRC). Only Cable 5,6CH is that AFT range is cover over broad-band. -2.5MHzFn+3.5MHz..
- Memorize Channels.(If a channel is broadcasting, the channel is memorized.)
- Direct Tuning(09KEY)
- Channel Up/Down.(Memorized Channels) -> The Ch Up/Down buttons on the Remocon and on the front panel are same function.
- Search Channel Up/Down.(If No-Memory or only 1CH is Memory)
- Channel Memory.(ADD/DELETE)
- Channel Review Function.
- Last Channel Memory Function.

4) OSD Function.
- In Line(Video) Mode, Things(Items) that is concerned with Air and Cable disappear in the Menu.
- Channel, AV display.
- Small & Graphic ICON Menu.
- Volume / Picture control --> I^2C Bus Control

5) The Others Function.
- Video/Audio Mute Function.
- If a Channel is no signal, after 15 minutes is Auto-Power Off Function.

- Auto Power On Function.(Power Restore function in the Special Menu)
- Heat Run Function. --- OSD White Back-Ground
- Sleep Timer.
- Wake Up Time Function.
- Off Time Function.
- Remote Reception & Control.
- Auto Tint.---------- (Option)
- Power Restore.
- Input(TV/Line) Controlled function. ---------- (Option)
- Reception.(Air/Cable : Factory Initial Condition)
- Blue Background.----------(Option)
- 3-Language (North America : ENG/SPA/FRA, South America : ENG/SPA/POR).
- E^2PROM Interface (I^2C Bus Control)
- CH 6 TRAP Function.(IS-31)
- PLL IC Band Data.(Control Byte 2-->P3~P0)

  VHF L : 1

  VHF H : 2

  CH6 TRAP : 5 (IS-31) AIR(Cable) CH 6 Only

  UHF : 8

5. The Table of Option and Schedule.

Model Name	Pin	Option	Application	Reference
CN - 001N	#30	Auto Tint	O	- Low(DC_0V) : ON(Auto Tint)
				- High(DC_5V) : OFF
	#32	Bule Back	O	- Low(DC_0V) : Blue Back
				- High(DC_5V) : No Blue Back
	#33	Prison	O	- Low(DC_0V) :Normal
				- High(DC_5V) : Prison
	#34	Mono/Stereo	O	- Low(DC_0V) : Mono
				- High(DC_5V) :Stereo
	#35	Caption	X	- No Use.
				- No Use.
	#36	TV only	O	- Low(DC_0V) :TV/Video
				- High(DC_5V) :TV/Only
Tatal Sun			6	- Use. (No Use.)

6. Pin Description

<table>
<tr><th>PIN</th><th>Terminal</th><th>Name</th><th>Explanation</th><th>Remarks</th></tr>
<tr><td>1</td><td>P10/SDA0</td><td>ROM Data Main IC Data</td><td rowspan="4">6 bit input/output port
Input/output can be Specified for each bit
Other function.
<table><tr><td>P10</td><td>IIC0 data I/O</td></tr><tr><td>P11</td><td>IIC0 clock output.</td></tr><tr><td>P12</td><td>IIC1 data I/O</td></tr><tr><td>P13</td><td>IIC1 clock output.</td></tr></table></td><td rowspan="4"></td></tr>
<tr><td>2</td><td>P11/SCLK0</td><td>ROM CLK Main IC CLK</td></tr>
<tr><td>3</td><td>P12/SDA1</td><td>Tuner Data</td></tr>
<tr><td>4</td><td>P13/SCLK1</td><td>Tuner CLK</td></tr>
<tr><td>5</td><td>VSS</td><td>GND</td><td>GND
Negative power supply.</td><td></td></tr>
<tr><td>6</td><td>XT1</td><td>XT1</td><td rowspan="2">It uses 32.768KHz X-TAL.
10 pin is input terminal for crystal oscillator.
11 pin is output terminal for crystal oscillator.</td><td rowspan="2"></td></tr>
<tr><td>7</td><td>XT2</td><td>XT2</td></tr>
<tr><td>8</td><td>VDD</td><td>VDD</td><td>+5V (0.5V)
Positive power supply.</td><td></td></tr>
<tr><td>9</td><td>P04/AN4</td><td>KEY-IN</td><td>Power, Ch up/down, Vol up/down, Menu</td><td></td></tr>
<tr><td>10</td><td>P05/AN5</td><td>AFT-IN</td><td>Dc value that comes from the 10 pin of LA76810/14</td><td></td></tr>
<tr><td>11</td><td>P06/AN6</td><td>AGC-IN</td><td>Connect this port to AGC of Tuner
Default Voltage : 3.75V
Variable Voltage : 3.25V, 3.5V, 4.0V</td><td></td></tr>
<tr><td>12</td><td>P07/AN7</td><td>ST-BY(H)</td><td>Use only japan Model.
This port uses when is Stand - By status
Condition : Input AC Power On
Power off : High (DC 5V) Output. (Red)
Power on : Low (DC 0V) Output.</td><td></td></tr>
<tr><td>13</td><td>/FES</td><td>/RES</td><td>Reset terminal.
Active Low</td><td></td></tr>
<tr><td>14</td><td>FILT</td><td>Filter</td><td>Filter terminal for PLL
Output terminal</td><td></td></tr>
<tr><td>15</td><td>CVIN</td><td>CVSB IN</td><td>Video signal input terminal</td><td></td></tr>
<tr><td>16</td><td>P01</td><td>TV/VID</td><td>TV Mode : High Line(Video) Mode : Low</td><td></td></tr>
<tr><td>17</td><td>/VS</td><td>/VS</td><td>Vertical synchronization signal input terminal</td><td></td></tr>
<tr><td>18</td><td>/HS</td><td>/HS</td><td>Horizental synchronization signal input terminal</td><td></td></tr>
<tr><td>19</td><td>R</td><td>R</td><td>Red output terminal of RGB image</td><td></td></tr>
<tr><td>20</td><td>G</td><td>G</td><td>Green output terminal of RGB image</td><td></td></tr>
</table>

PIN	Terminal	Name	Explanation
21	B	B	Blue output terminal of RGB image
22	BL	BL	Fast blanking control signal Switch TV image Signal and caption / OSD image signal Output terminal
23	P31	Audio Mute	Use only read data of LA76814/10
24	P32	Power On	Use when does power off/on Power off: Output Low(DC 0V) Power on: Output High(DC 5V)
25	P70/INT0	Bus Stop	No Use
26	P71/INT1	Relay On/Off	Relay On/Off Terminal
27	P72/INT2	A/V Detection	Detect port of Front A/V
28	P73/INT3	Remocon In	Input of Remocon Signal
29	P14/PWM1	RF(H)/AV(L)	High: RF only mode Low: RF/AV mode
30	P15/PWM2	AUTO TINT	Low (DC-0V) : On(Auto Tint) High (DC-5V) : Off
31	P16/PWM3	PWM VOLUME	Use only to control Sound of Stereo mode
32	P17	BLUE BACK	High (DC-5V) : No Blue Back Low (DC-0V) : Blue Back
33	P00	PRISON	Low (DC-0V) : Normal High (DC-5V) : Prison
34	P01	MONO/STEREO	Low (DC-0V) : Mono High (DC-5V) : Stereo
35	P02	CAPTION	No Use
36	P03	TV ONLY(H)	Low (DC-0V) : TV/Video High (DC-5V) : TV Only

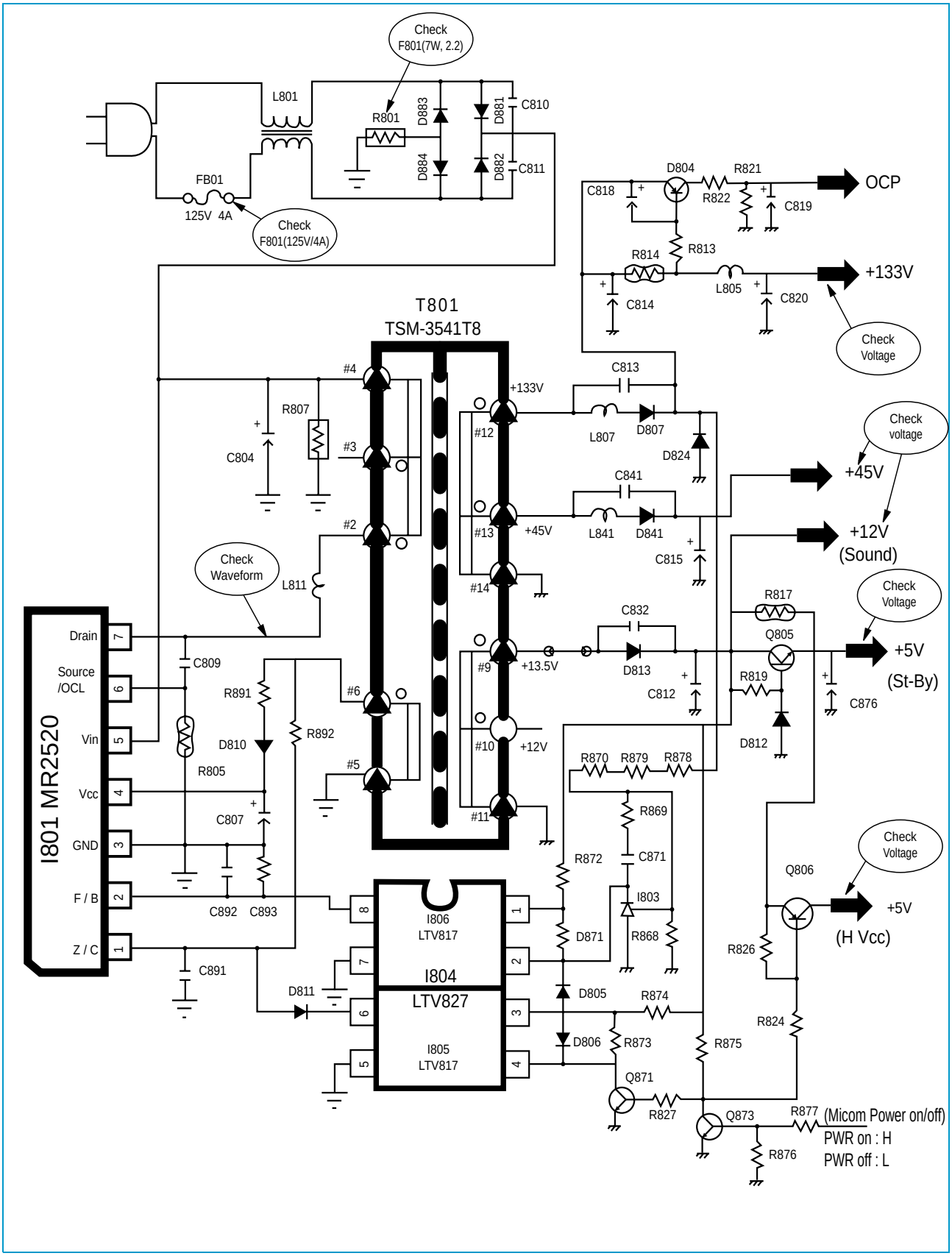
Output form and existence of pull- up resistor for every port can be specified for each bit.
At port 1, Programable pull- up resistor provided when specifing either COOS or N- ch open drain output.
Port status in reset.

Teriminal	I/O	Pull- up resistor status at selection pull- up option.
Port 0	I	Pull- up resistor OFF, ON after reset release.
Port 1	I	Programmable pull- resistor OFF.

I101

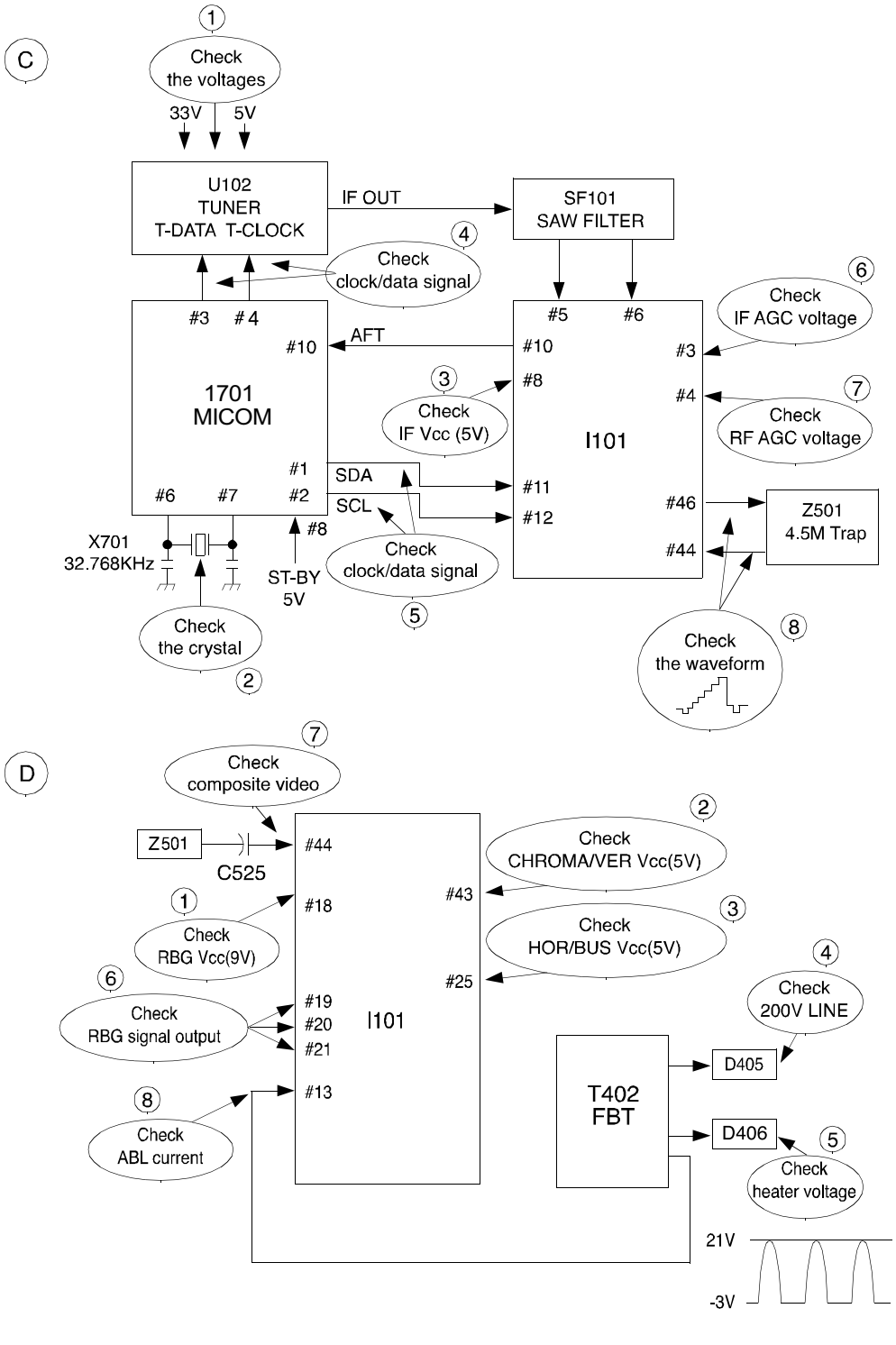
LA76845 : IC VIDEO PROCESSOR

1. NO POWER


Check
F801(7W, 2.2)
L801
R801
D883
D884
D881
D882
C810
C811
FB01
125V 4A
Check
F801(125V/4A)
D804
R821
OCP
C818
R822
C819
R813
R814
+133V
L805
C820
C814
Check
Voltage
T801
TSM-3541T8
#4
#3
#2
#6
#5
#12
#13
#14
#9
#10
#11
+133V
+45V
+13.5V
+12V
C813
L807
D807
D824
C841
L841
D841
C815
Check
voltage
+45V
+12V
(Sound)
R807
C804
Check
Waveform
L811
R817
Q805
C832
D813
C812
R819
D812
C876
Check
Voltage
+5V
(St-By)
I801 MR2520
Drain
Source
/OCL
Vin
Vcc
GND
F / B
Z / C
C809
R891
D810
R805
C807
R892
C892
C893
C891
D811
R870
R879
R878
R869
R872
C871
I803
D871
R868
D805
R874
D806
R873
R875
Q871
R827
Q873
R876
R824
R826
Q806
Check
Voltage
+5V
(H Vcc)
I806
LTV817
I804
LTV827
I805
LTV817
R877
(Micom Power on/off)
PWR on : H
PWR off : L

2. NO PICTURE

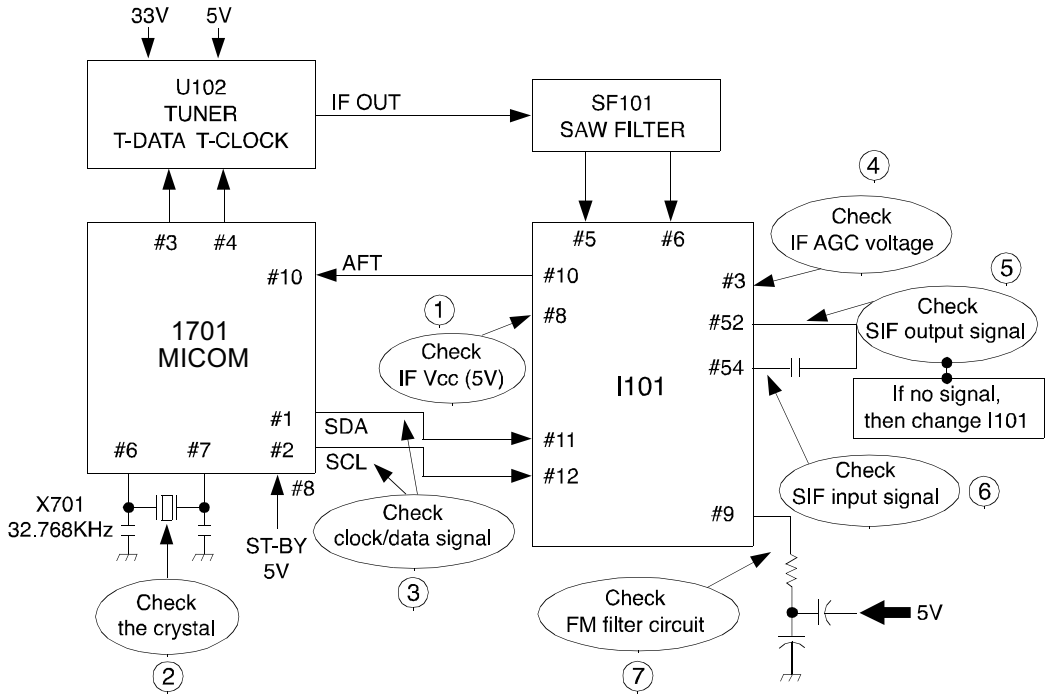
Check the waveform of I101 #46	NG : GO to the figure ⓒ
	OK : Go the figure ⓓ



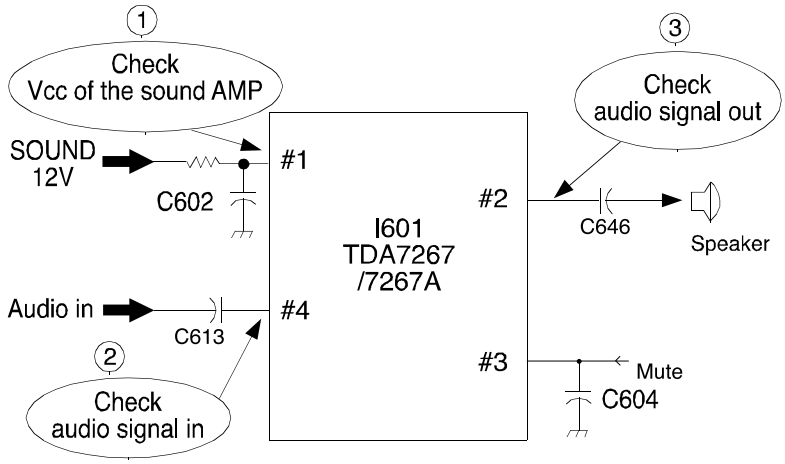
3. NO SOUND

Check audio output signal of I101 #1	NG : Go to the figure ⓔ
	OK : Go to the figure ⓕ ⓖ

E

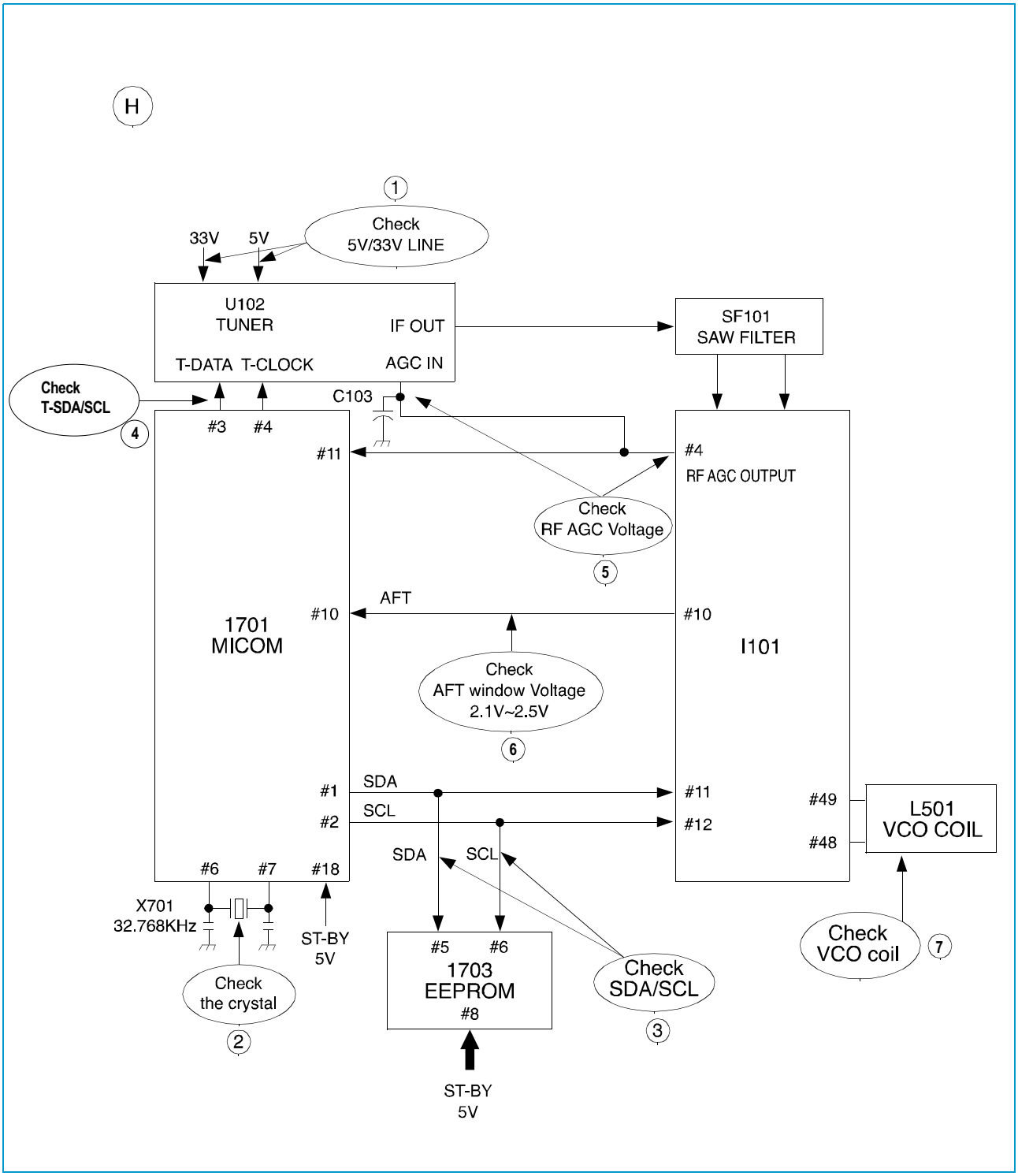


F (MONO ONLY)

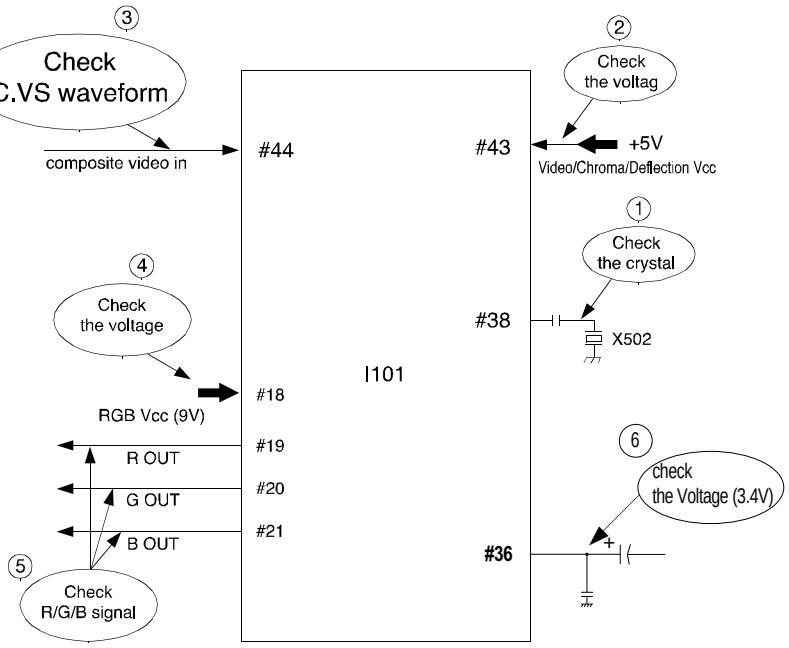


4. CH DON'T MEMORY or SKIP

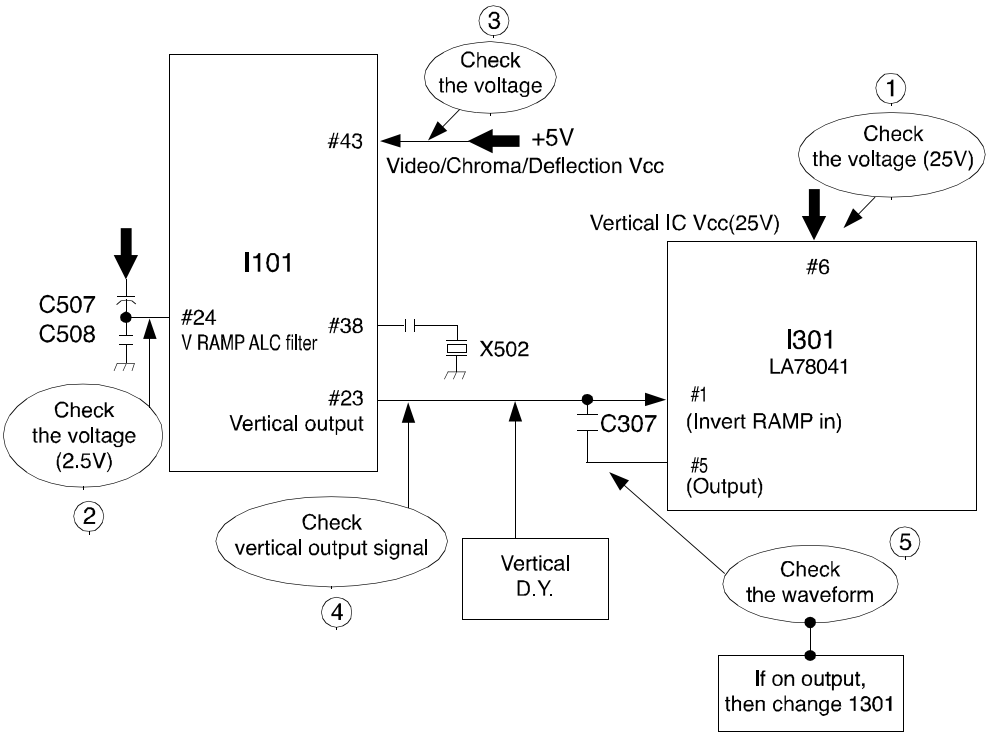
Check the input signal conditions	NG : Loss of signal or weak signal
	OK : Go to the figure ⓗ



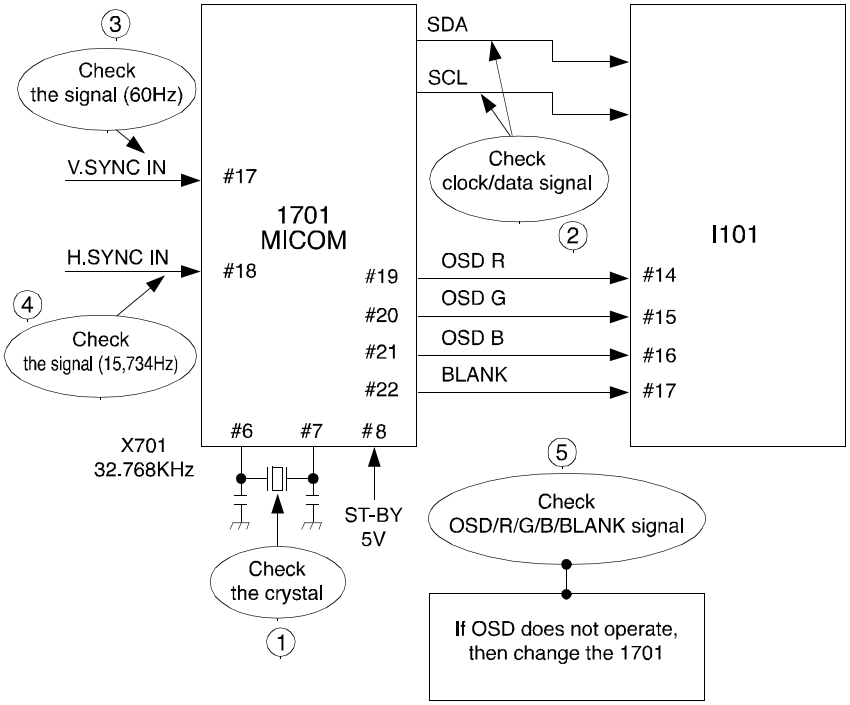
5. NO COLOR



6. NO VERTICAL DEFLECTION



7. NO ON-SCREEN DISPLAY



8. REMOTE CONTROL DOES NOT OPERATE